

12 D.O.

RAW SEQUENCE LISTING
ERROR REPORT



RECEIVED

JUL 17 2001

TECH CENTER 1600/2900

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/084,471B

Source: 1655

Date Processed by STIC: 6/25/2001

#19

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE **CHECKER VERSION 3.0 PROGRAM**, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW:

Checker Version 3.0

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 - 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25.

Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:

<http://www.uspto.gov/web/offices/pac/checker>

1655

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001

TIME: 11:40:53

Input Set : A:\G150581u.txt

Output Set: N:\CRF3\06252001\I084471B.raw

SEQUENCE LISTING

C--> 5 (1) GENERAL INFORMATION:

7 (i) APPLICANT: Murphy, Patricia
8 White, Marga
9 Olson, Sheri
10 Yoshikawa, Matthew
11 Jackson, Geoffrey
12 Eskanderi, Tara
13 Schryer, Brenda
14 Park, Michael

Does Not Comply
Corrected Diskette Needed

pr 4-10, 13-19,
22-28, 31-37,
40-46

C--> 16 (ii) TITLE OF INVENTION: NOVEL CODING SEQUENCE HAPLOTYPES
OF THE HUMAN BRCA2 GENE

17 (iii) NUMBER OF SEQUENCES: 133

19 (iv) CORRESPONDENCE ADDRESS:

21 (A) ADDRESSEE: Morgan, Lewis & Bockius LLP
22 (B) STREET: 1800 M St., NW
23 (C) CITY: Washington
24 (D) STATE: DC
25 (E) COUNTRY: USA
26 (F) ZIP: 20036

27 (v) COMPUTER READABLE FORM:

29 (A) MEDIUM TYPE: Diskette
30 (B) COMPUTER: IBM Compatible
31 (C) OPERATING SYSTEM: DOS
32 (D) SOFTWARE: FastSEQ for Windows Version 2.0

33 (vi) CURRENT APPLICATION DATA:

35 (A) APPLICATION NUMBER: US/09/084,471B

C--> 37 (B) FILING DATE: 22-May-1998

C--> 38 (C) CLASSIFICATION:

52 (vii) PRIOR APPLICATION DATA:

41 (A) APPLICATION NUMBER: US 60/055,784
42 (B) FILING DATE: 15 August 1997
45 (A) APPLICATION NUMBER: US 60/064,926
46 (B) FILING DATE: 07 November 1997
49 (A) APPLICATION NUMBER: US 60/065,367
50 (B) FILING DATE: 12 November 1997
53 (A) APPLICATION NUMBER: US 09/071,715
54 (B) FILING DATE: 01 May 1998

56 (viii) ATTORNEY/AGENT INFORMATION:

57 (A) NAME: Reid G. Adler
58 (B) REGISTRATION NUMBER: 30,988
59 (C) REFERENCE/DOCKET NUMBER: 44921-5058-01-US

61 (ix) TELECOMMUNICATION INFORMATION:

62 (A) TELEPHONE: 202-467-7000
63 (B) TELEFAX: 202-467-7258

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ERRORRED SEQUENCES

1009 (2) INFORMATION FOR SEQ ID NO: 5:
 1011 (i) SEQUENCE CHARACTERISTICS:
 1012 (A) LENGTH: 3418 amino acids
 1013 (B) TYPE: amino acid
 1014 (C) STRANDEDNESS: single
 1015 (D) TOPOLOGY: linear
 1017 (ii) MOLECULE TYPE: protein
 1018 (v) FRAGMENT TYPE: internal
 1020 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:
 1022 Met Pro Ile Gly Ser Lys Glu Arg Pro Thr Phe Phe Glu Ile Phe Lys
 1023 1 5 10 15
 1024 Thr Arg Cys Asn Lys Ala Asp Leu Gly Pro Ile Ser Leu Asn Trp Phe
 1025 20 25 30
 1026 Glu Glu Leu Ser Ser Glu Ala Pro Pro Tyr Asn Ser Glu Pro Ala Glu
 1027 35 40 45
 1028 Glu Ser Glu His Lys Asn Asn Asn Tyr Glu Pro Asn Leu Phe Lys Thr
 1029 50 55 60
 1030 Pro Gln Arg Lys Pro Ser Tyr Asn Gln Leu Ala Ser Thr Pro Ile Ile
 1031 65 70 75 80
 1032 Phe Lys Glu Gln Gly Leu Thr Leu Pro Leu Tyr Gln Ser Pro Val Lys
 1033 85 90 95
 1034 Glu Leu Asp Lys Phe Lys Leu Asp Leu Gly Arg Asn Val Pro Asn Ser
 1035 100 105 110
 1036 Arg His Lys Ser Leu Arg Thr Val Lys Thr Lys Met Asp Gln Ala Asp
 1037 115 120 125
 1038 Asp Val Ser Cys Pro Leu Leu Asn Ser Cys Leu Ser Glu Ser Pro Val
 1039 130 135 140
 1040 Val Leu Gln Cys Thr His Val Thr Pro Gln Arg Asp Lys Ser Val Val
 1041 145 150 155 160
 1042 Cys Gly Ser Leu Phe His Thr Pro Lys Phe Val Lys Gly Arg Gln Thr
 1043 165 170 175
 1044 Pro Lys His Ile Ser Glu Ser Leu Gly Ala Glu Val Asp Pro Asp Met
 1045 180 185 190
 1046 Ser Trp Ser Ser Ser Leu Ala Thr Pro Pro Thr Leu Ser Ser Thr Val
 1047 195 200 205
 1048 Leu Ile Val Arg Asn Glu Glu Ala Ser Glu Thr Val Phe Pro His Asp
 1049 210 215 220
 1050 Thr Thr Ala Asn Val Lys Ser Tyr Phe Ser Asn His Asp Glu Ser Leu
 1051 225 230 235 240
 1052 Lys Lys Asn Asp Arg Phe Ile Ala Ser Val Thr Asp Ser Glu Asn Thr
 1053 245 250 255
 1054 Asn Gln Arg Glu Ala Ala Ser His Gly Phe Gly Lys Thr Ser Gly Asn
 1055 260 265 270
 1056 Ser Phe Lys Val Asn Ser Cys Lys Asp His Ile Gly Lys Ser Met Pro
 1057 275 280 285
 1058 Asn Val Leu Glu Asp Glu Val Tyr Glu Thr Val Val Asp Thr Ser Glu
 1059 290 295 300
 1060 Glu Asp Ser Phe Ser Leu Cys Phe Ser Lys Cys Arg Thr Lys Asn Leu

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1061 305          310          315          320
1062 Gln Lys Val Arg Thr Ser Lys Thr Arg Lys Lys Ile Phe His Glu Ala
1063          325          330          335
1064 Asn Ala Asp Glu Cys Glu Lys Ser Lys Asn Gln Val Lys Glu Lys Tyr
1065          340          345          350
1066 Ser Phe Val Ser Glu Val Glu Pro Asn Asp Thr Asp Pro Leu Asp Ser
1067          355          360          365
1068 Asn Val Ala His Gln Lys Pro Phe Glu Ser Gly Ser Asp Lys Ile Ser
1069          370          375          380
1070 Lys Glu Val Val Pro Ser Leu Ala Cys Glu Trp Ser Gln Leu Thr Leu
1071 385          390          395          400
1072 Ser Gly Leu Asn Gly Ala Gln Met Glu Lys Ile Pro Leu Leu His Ile
1073          405          410          415
1074 Ser Ser Cys Asp Gln Asn Ile Ser Glu Lys Asp Leu Leu Asp Thr Glu
1075          420          425          430
1076 Asn Lys Arg Lys Lys Asp Phe Leu Thr Ser Glu Asn Ser Leu Pro Arg
1077          435          440          445
1078 Ile Ser Ser Leu Pro Lys Ser Glu Lys Pro Leu Asn Glu Glu Thr Val
1079          450          455          460
1080 Val Asn Lys Arg Asp Glu Glu Gln His Leu Glu Ser His Thr Asp Cys
1081 465          470          475          480
1082 Ile Leu Ala Val Lys Gln Ala Ile Ser Gly Thr Ser Pro Val Ala Ser
1083          485          490          495
1084 Ser Phe Gln Gly Ile Lys Lys Ser Ile Phe Arg Ile Arg Glu Ser Pro
1085          500          505          510
1086 Lys Glu Thr Phe Asn Ala Ser Phe Ser Gly His Met Thr Asp Pro Asn
1087          515          520          525
1088 Phe Lys Lys Glu Thr Glu Ala Ser Glu Ser Gly Leu Glu Ile His Thr
1089          530          535          540
1090 Val Cys Ser Gln Lys Glu Asp Ser Leu Cys Pro Asn Leu Ile Asp Asn
1091 545          550          555          560
1092 Gly Ser Trp Pro Ala Thr Thr Thr Gln Asn Ser Val Ala Leu Lys Asn
1093          565          570          575
1094 Ala Gly Leu Ile Ser Thr Leu Lys Lys Lys Thr Asn Lys Phe Ile Tyr
1095          580          585          590
1096 Ala Ile His Asp Glu Thr Ser Tyr Lys Gly Lys Lys Ile Pro Lys Asp
1097          595          600          605
1098 Gln Lys Ser Glu Leu Ile Asn Cys Ser Ala Gln Phe Glu Ala Asn Ala
1099          610          615          620
1100 Phe Glu Ala Pro Leu Thr Phe Ala Asn Ala Asp Ser Gly Leu Leu His
1101 625          630          635          640
1102 Ser Ser Val Lys Arg Ser Cys Ser Gln Asn Asp Ser Glu Glu Pro Thr
1103          645          650          655
1104 Leu Ser Leu Thr Ser Ser Phe Gly Thr Ile Leu Arg Lys Cys Ser Arg
1105          660          665          670
1106 Asn Glu Thr Cys Ser Asn Asn Thr Val Ile Ser Gln Asp Leu Asp Tyr
1107          675          680          685
1108 Lys Glu Ala Lys Cys Asn Lys Glu Lys Leu Gln Leu Phe Ile Thr Pro
1109          690          695          700

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1110 Glu Ala Asp Ser Leu Ser Cys Leu Gln Glu Gly Gln Cys Glu Asn Asp
 1111 705 710 715 720
 1112 Pro Lys Ser Lys Lys Val Ser Asp Ile Lys Glu Glu Val Leu Ala Ala
 1113 725 730 735
 1114 Ala Cys His Pro Val Gln His Ser Lys Val Glu Tyr Ser Asp Thr Asp
 1115 740 745 750
 1116 Phe Gln Ser Gln Lys Ser Leu Leu Tyr Asp His Glu Asn Ala Ser Thr
 1117 755 760 765
 1118 Leu Ile Leu Thr Pro Thr Ser Lys Asp Val Leu Ser Asn Leu Val Met
 1119 770 775 780
 1120 Ile Ser Arg Gly Lys Glu Ser Tyr Lys Met Ser Asp Lys Leu Lys Gly
 1121 785 790 795 800
 1122 Asn Asn Tyr Glu Ser Asp Val Glu Leu Thr Lys Asn Ile Pro Met Glu
 1123 805 810 815
 1124 Lys Asn Gln Asp Val Cys Ala Leu Asn Glu Asn Tyr Lys Asn Val Glu
 1125 820 825 830
 1126 Leu Leu Pro Pro Glu Lys Tyr Met Arg Val Ala Ser Pro Ser Arg Lys
 1127 835 840 845
 1128 Val Gln Phe Asn Gln Asn Thr Asn Leu Arg Val Ile Gln Lys Asn Gln
 1129 850 855 860
 1130 Glu Glu Thr Thr Ser Ile Ser Lys Ile Thr Val Asn Pro Asp Ser Glu
 1131 865 870 875 880
 1132 Glu Leu Phe Ser Asp Asn Glu Asn Asn Phe Val Phe Gln Val Ala Asn
 1133 885 890 895
 1134 Glu Arg Asn Asn Leu Ala Leu Gly Asn Thr Lys Glu Leu His Glu Thr
 1135 900 905 910
 1136 Asp Leu Thr Cys Val Asn Glu Pro Ile Phe Lys Asn Ser Thr Met Val
 1137 915 920 925
 1138 Leu Tyr Gly Asp Thr Gly Asp Lys Gln Ala Thr Gln Val Ser Ile Lys
 1139 930 935 940
 1140 Lys Asp Leu Val Tyr Val Leu Ala Glu Glu Asn Lys Asn Ser Val Lys
 1141 945 950 955 960
 1142 Gln His Ile Lys Met Thr Leu Gly Gln Asp Leu Lys Ser Asp Ile Ser
 1143 965 970 975
 1144 Leu Asn Ile Asp Lys Ile Pro Glu Lys Asn Asn Asp Tyr Met Asn Lys
 1145 980 985 990
 1146 Trp Ala Gly Leu Leu Gly Pro Ile Ser Asn His Ser Phe Gly Gly Ser
 1147 995 1000 1005
 1148 Phe Arg Thr Ala Ser Asn Lys Glu Ile Lys Leu Ser Glu His Asn Ile
 1149 1010 1015 1020
 1150 Lys Lys Ser Lys Met Phe Phe Lys Asp Ile Glu Glu Gln Tyr Pro Thr
 E--> 1151 1025 1030 1035 1040
 1152 Ser Leu Ala Cys Val Glu Ile Val Asn Thr Leu Ala Leu Asp Asn Gln
 1153 1045 1050 1055
 1154 Lys Lys Leu Ser Lys Pro Gln Ser Ile Asn Thr Val Ser Ala His Leu
 1155 1060 1065 1070
 1156 Gln Ser Ser Val Val Val Ser Asp Cys Lys Asn Ser His Ile Thr Pro
 1157 1075 1080 1085
 1158 Gln Met Leu Phe Ser Lys Gln Asp Phe Asn Ser Asn His Asn Leu Thr

*Please ensure a space
 exists between beginning of
 number and previous
 amino acid.*

*When
 numbering
 the last
 amino acid
 on a line,
 end the number
 directly below
 last letter of
 the amino acid.*

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1159 1090 1095 1100
 1160 Pro Ser Gln Lys Ala Glu Ile Thr Glu Leu Ser Thr Ile Leu Glu Glu
 E--> 1161 1105 1110 1115 1120
 1162 Ser Gly Ser Gln Phe Glu Phe Thr Gln Phe Arg Lys Pro Ser Tyr Ile
 1163 1125 1130 1135
 1164 Leu Gln Lys Ser Thr Phe Glu Val Pro Glu Asn Gln Met Thr Ile Leu
 1165 1140 1145 1150
 1166 Lys Thr Thr Ser Glu Glu Cys Arg Asp Ala Asp Leu His Val Ile Met
 1167 1155 1160 1165
 1168 Asn Ala Pro Ser Ile Gly Gln Val Asp Ser Ser Lys Gln Phe Glu Gly
 1169 1170 1175 1180
 1170 Thr Val Glu Ile Lys Arg Lys Phe Ala Gly Leu Leu Lys Asn Asp Cys
 E--> 1171 1185 1190 1195 1200
 1172 Asn Lys Ser Ala Ser Gly Tyr Leu Thr Asp Glu Asn Glu Val Gly Phe
 1173 1205 1210 1215
 1174 Arg Gly Phe Tyr Ser Ala His Gly Thr Lys Leu Asn Val Ser Thr Glu
 1175 1220 1225 1230
 1176 Ala Leu Gln Lys Ala Val Lys Leu Phe Ser Asp Ile Glu Asn Ile Ser
 1177 1235 1240 1245
 1178 Glu Glu Thr Ser Ala Glu Val His Pro Ile Ser Leu Ser Ser Ser Lys
 1179 1250 1255 1260
 1180 Cys His Asp Ser Val Val Ser Met Phe Lys Ile Glu Asn His Asn Asp
 E--> 1181 1265 1270 1275 128
 1182 Lys Thr Val Ser Glu Lys Asn Asn Lys Cys Gln Leu Ile Leu Gln Asn
 1183 1285 1290 1295
 1184 Asn Ile Glu Met Thr Thr Gly Thr Phe Val Glu Glu Ile Thr Glu Asn
 1185 1300 1305 1310
 1186 Tyr Lys Arg Asn Thr Glu Asn Glu Asp Asn Lys Tyr Thr Ala Ala Ser
 1187 1315 1320 1325
 1188 Arg Asn Ser His Asn Leu Glu Phe Asp Gly Ser Asp Ser Ser Lys Asn
 1189 1330 1335 1340
 1190 Asp Thr Val Cys Ile His Lys Asp Glu Thr Asp Leu Leu Phe Thr Asp
 E--> 1191 1345 1350 1355 136
 1192 Gln His Asn Ile Cys Leu Lys Leu Ser Gly Gln Phe Met Lys Glu Gly
 1193 1365 1370 1375
 1194 Asn Thr Gln Ile Lys Glu Asp Leu Ser Asp Leu Thr Phe Leu Glu Val
 1195 1380 1385 1390
 1196 Ala Lys Ala Gln Glu Ala Cys His Gly Asn Thr Ser Asn Lys Glu Gln
 1197 1395 1400 1405
 1198 Leu Thr Ala Thr Lys Thr Glu Gln Asn Ile Lys Asp Phe Glu Thr Ser
 1199 1410 1415 1420
 1200 Asp Thr Phe Phe Gln Thr Ala Ser Gly Lys Asn Ile Ser Val Ala Lys
 E--> 1201 1425 1430 1435 144
 1202 Glu Ser Phe Asn Lys Ile Val Asn Phe Phe Asp Gln Lys Pro Glu Glu
 1203 1445 1450 1455
 1204 Leu His Asn Phe Ser Leu Asn Ser Glu Leu His Ser Asp Ile Arg Lys
 1205 1460 1465 1470
 1206 Asn Lys Met Asp Ile Leu Ser Tyr Glu Glu Thr Asp Ile Val Lys His
 1207 1475 1480 1485

*same
snow*

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1208 Lys Ile Leu Lys Glu Ser Val Pro Val Gly Thr Gly Asn Gln Leu Val
 1209 1490 1495 1500
 1210 Thr Phe Gln Gly Gln Pro Glu Arg Asp Glu Lys Ile Lys Glu Pro Thr
 E--> 1211 1505 1510 1515 152
 1212 Leu Leu Gly Phe His Thr Ala Ser Gly Lys Lys Val Lys Ile Ala Lys
 1213 1525 1530 1535
 1214 Glu Ser Leu Asp Lys Val Lys Asn Leu Phe Asp Glu Lys Glu Gln Gly
 1215 1540 1545 1550
 1216 Thr Ser Glu Ile Thr Ser Phe Ser His Gln Trp Ala Lys Thr Leu Lys
 1217 1555 1560 1565
 1218 Tyr Arg Glu Ala Cys Lys Asp Leu Glu Leu Ala Cys Glu Thr Ile Glu
 1219 1570 1575 1580
 1220 Ile Thr Ala Ala Pro Lys Cys Lys Glu Met Gln Asn Ser Leu Asn Asn
 E--> 1221 1585 1590 1595 160
 1222 Asp Lys Asn Leu Val Ser Ile Glu Thr Val Val Pro Pro Lys Leu Leu
 1223 1605 1610 1615
 1224 Ser Asp Asn Leu Cys Arg Gln Thr Glu Asn Leu Lys Thr Ser Lys Ser
 1225 1620 1625 1630
 1226 Ile Phe Leu Lys Val Lys Val His Glu Asn Val Glu Lys Glu Thr Ala
 1227 1635 1640 1645
 1228 Lys Ser Pro Ala Thr Cys Tyr Thr Asn Gln Ser Pro Tyr Ser Val Ile
 1229 1650 1655 1660
 1230 Glu Asn Ser Ala Leu Ala Phe Tyr Thr Ser Cys Ser Arg Lys Thr Ser
 E--> 1231 1665 1670 1675 168
 1232 Val Ser Gln Thr Ser Leu Leu Glu Ala Lys Lys Trp Leu Arg Glu Gly
 1233 1685 1690 1695
 1234 Ile Phe Asp Gly Gln Pro Glu Arg Ile Asn Thr Ala Asp Tyr Val Gly
 1235 1700 1705 1710
 1236 Asn Tyr Leu Tyr Glu Asn Asn Ser Asn Ser Thr Ile Ala Glu Asn Asp
 1237 1715 1720 1725
 1238 Lys Asn His Leu Ser Glu Lys Gln Asp Thr Tyr Leu Ser Asn Ser Ser
 1239 1730 1735 1740
 1240 Met Ser Asn Ser Tyr Ser Tyr His Ser Asp Glu Val Tyr Asn Asp Ser
 E--> 1241 1745 1750 1755 176
 1242 Gly Tyr Leu Ser Lys Asn Lys Leu Asp Ser Gly Ile Glu Pro Val Leu
 1243 1765 1770 1775
 1244 Lys Asn Val Glu Asp Gln Lys Asn Thr Ser Phe Ser Lys Val Ile Ser
 1245 1780 1785 1790
 1246 Asn Val Lys Asp Ala Asn Ala Tyr Pro Gln Thr Val Asn Glu Asp Ile
 1247 1795 1800 1805
 1248 Cys Val Glu Glu Leu Val Thr Ser Ser Ser Pro Cys Lys Asn Lys Asn
 1249 1810 1815 1820
 1250 Ala Ala Ile Lys Leu Ser Ile Ser Asn Ser Asn Asn Phe Glu Val Gly
 E--> 1251 1825 1830 1835 184
 1252 Pro Pro Ala Phe Arg Ile Ala Ser Gly Lys Ile Val Cys Val Ser His
 1253 1845 1850 1855
 1254 Glu Thr Ile Lys Lys Val Lys Asp Ile Phe Thr Asp Ser Phe Ser Lys
 1255 1860 1865 1870
 1256 Val Ile Lys Glu Asn Asn Glu Asn Lys Ser Lys Ile Cys Gln Thr Lys

same

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1257 1875 1880 1885
 1258 Ile Met Ala Gly Cys Tyr Glu Ala Leu Asp Asp Ser Glu Asp Ile Leu
 1259 1890 1895 1900
 1260 His Asn Ser Leu Asp Asn Asp Glu Cys Ser Thr His Ser His Lys Val
 E--> 1261 1905 1910 1915 192
 1262 Phe Ala Asp Ile Gln Ser Glu Glu Ile Leu Gln His Asn Gln Asn Met
 1263 1925 1930 1935
 1264 Ser Gly Leu Glu Lys Val Ser Lys Ile Ser Pro Cys Asp Val Ser Leu
 1265 1940 1945 1950
 1266 Glu Thr Ser Asp Ile Cys Lys Cys Ser Ile Gly Lys Leu His Lys Ser
 1267 1955 1960 1965
 1268 Val Ser Ser Ala Asn Thr Cys Gly Ile Phe Ser Thr Ala Ser Gly Lys
 1269 1970 1975 1980
 1270 Ser Val Gln Val Ser Asp Ala Ser Leu Gln Asn Ala Arg Gln Val Phe
 E--> 1271 1985 1990 1995 200
 1272 Ser Glu Ile Glu Asp Ser Thr Lys Gln Val Phe Ser Lys Val Leu Phe
 1273 2005 2010 2015
 1274 Lys Ser Asn Glu His Ser Asp Gln Leu Thr Arg Glu Glu Asn Thr Ala
 1275 2020 2025 2030
 1276 Ile Arg Thr Pro Glu His Leu Ile Ser Gln Lys Gly Phe Ser Tyr Asn
 1277 2035 2040 2045
 1278 Val Val Asn Ser Ser Ala Phe Ser Gly Phe Ser Thr Ala Ser Gly Lys
 1279 2050 2055 2060
 1280 Gln Val Ser Ile Leu Glu Ser Ser Leu His Lys Val Lys Gly Val Leu
 E--> 1281 2065 2070 2075 208
 1282 Glu Glu Phe Asp Leu Ile Arg Thr Glu His Ser Leu His Tyr Ser Pro
 1283 2085 2090 2095
 1284 Thr Ser Arg Gln Asn Val Ser Lys Ile Leu Pro Arg Val Asp Lys Arg
 1285 2100 2105 2110
 1286 Asn Pro Glu His Cys Val Asn Ser Glu Met Glu Lys Thr Cys Ser Lys
 1287 2115 2120 2125
 1288 Glu Phe Lys Leu Ser Asn Asn Leu Asn Val Glu Gly Gly Ser Ser Glu
 1289 2130 2135 2140
 1290 Asn Asn His Ser Ile Lys Val Ser Pro Tyr Leu Ser Gln Phe Gln Gln
 E--> 1291 2145 2150 2155 216
 1292 Asp Lys Gln Gln Leu Val Leu Gly Thr Lys Val Ser Leu Val Glu Asn
 1293 2165 2170 2175
 1294 Ile His Val Leu Gly Lys Glu Gln Ala Ser Pro Lys Asn Val Lys Met
 1295 2180 2185 2190
 1296 Glu Ile Gly Lys Thr Glu Thr Phe Ser Asp Val Pro Val Lys Thr Asn
 1297 2195 2200 2205
 1298 Ile Glu Val Cys Ser Thr Tyr Ser Lys Asp Ser Glu Asn Tyr Phe Glu
 1299 2210 2215 2220
 1300 Thr Glu Ala Val Glu Ile Ala Lys Ala Phe Met Glu Asp Asp Glu Leu
 E--> 1301 2225 2230 2235 224
 1302 Thr Asp Ser Lys Leu Pro Ser His Ala Thr His Ser Leu Phe Thr Cys
 1303 2245 2250 2255
 1304 Pro Glu Asn Glu Glu Met Val Leu Ser Asn Ser Arg Ile Gly Lys Arg
 1305 2260 2265 2270

same

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1306 Arg Gly Glu Pro Leu Ile Leu Val Gly Glu Pro Ser Ile Lys Arg Asn
 1307 2275 2280
 1308 Leu Leu Asn Glu Phe Asp Arg Ile Ile Glu Asn Gln Glu Lys Ser Leu
 1309 2290 2295 2300
 1310 Lys Ala Ser Lys Ser Thr Pro Asp Gly Thr Ile Lys Asp Arg Arg Leu
 E--> 1311 2305 2310 2315 232
 1312 Phe Met His His Val Ser Leu Glu Pro Ile Thr Cys Val Pro Phe Arg
 1313 2325 2330 2335
 1314 Thr Thr Lys Glu Arg Gln Glu Ile Gln Asn Pro Asn Phe Thr Ala Pro
 1315 2340 2345 2350
 1316 Gly Gln Glu Phe Leu Ser Lys Ser His Leu Tyr Glu His Leu Thr Leu
 1317 2355 2360 2365
 1318 Glu Lys Ser Ser Ser Asn Leu Ala Val Ser Gly His Pro Phe Tyr Gln
 1319 2370 2375 2380
 1320 Val Ser Ala Thr Arg Asn Glu Lys Met Arg His Leu Ile Thr Thr Gly
 E--> 1321 2385 2390 2395 240
 1322 Arg Pro Thr Lys Val Phe Val Pro Pro Phe Lys Thr Lys Ser His Phe
 1323 2405 2410 2415
 1324 His Arg Val Glu Gln Cys Val Arg Asn Ile Asn Leu Glu Glu Asn Arg
 1325 2420 2425 2430
 1326 Gln Lys Gln Asn Ile Asp Gly His Gly Ser Asp Asp Ser Lys Asn Lys
 1327 2435 2440 2445
 1328 Ile Asn Asp Asn Glu Ile His Gln Phe Asn Lys Asn Asn Ser Asn Gln
 1329 2450 2455 2460
 1330 Ala Ala Ala Val Thr Phe Thr Lys Cys Glu Glu Glu Pro Leu Asp Leu
 E--> 1331 2465 2470 2475 248
 1332 Ile Thr Ser Leu Gln Asn Ala Arg Asp Ile Gln Asp Met Arg Ile Lys
 1333 2485 2490 2495
 1334 Lys Lys Gln Arg Gln Arg Val Phe Pro Gln Pro Gly Ser Leu Tyr Leu
 1335 2500 2505 2510
 1336 Ala Lys Thr Ser Thr Leu Pro Arg Ile Ser Leu Lys Ala Ala Val Gly
 1337 2515 2520 2525
 1338 Gly Gln Val Pro Ser Ala Cys Ser His Lys Gln Leu Tyr Thr Tyr Gly
 1339 2530 2535 2540
 1340 Val Ser Lys His Cys Ile Lys Ile Asn Ser Lys Asn Ala Glu Ser Phe
 E--> 1341 2545 2550 2555 256
 1342 Gln Phe His Thr Glu Asp Tyr Phe Gly Lys Glu Ser Leu Trp Thr Gly
 1343 2565 2570 2575
 1344 Lys Gly Ile Gln Leu Ala Asp Gly Gly Trp Leu Ile Pro Ser Asn Asp
 1345 2580 2585 2590
 1346 Gly Lys Ala Gly Lys Glu Glu Phe Tyr Arg Ala Leu Cys Asp Thr Pro
 1347 2595 2600 2605
 1348 Gly Val Asp Pro Lys Leu Ile Ser Arg Ile Trp Val Tyr Asn His Tyr
 1349 2610 2615 2620
 1350 Arg Trp Ile Ile Trp Lys Leu Ala Ala Met Glu Cys Ala Phe Pro Lys
 E--> 1351 2625 2630 2635 264
 1352 Glu Phe Ala Asn Arg Cys Leu Ser Pro Glu Arg Val Leu Leu Gln Leu
 1353 2645 2650 2655
 1354 Lys Tyr Arg Tyr Asp Thr Glu Ile Asp Arg Ser Arg Arg Ser Ala Ile

same

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1404 Phe Ser Lys Phe Leu Asp Pro Asp Phe Gln Pro Ser Cys Ser Glu Val
 1405 3060 3065 3070
 1406 Asp Leu Ile Gly Phe Val Val Ser Val Val Lys Lys Thr Gly Leu Ala
 1407 3075 3080 3085
 1408 Pro Phe Val Tyr Leu Ser Asp Glu Cys Tyr Asn Leu Leu Ala Ile Lys
 1409 3090 3095 3100
 1410 Phe Trp Ile Asp Leu Asn Glu Asp Ile Ile Lys Pro His Met Leu Ile
 E--> 1411 3105 3110 3115 312
 1412 Ala Ala Ser Asn Leu Gln Trp Arg Pro Glu Ser Lys Ser Gly Leu Leu
 1413 3125 3130 3135
 1414 Thr Leu Phe Ala Gly Asp Phe Ser Val Phe Ser Ala Ser Pro Lys Glu
 1415 3140 3145 3150
 1416 Gly His Phe Gln Glu Thr Phe Asn Lys Met Lys Asn Thr Val Glu Asn
 1417 3155 3160 3165
 1418 Ile Asp Ile Leu Cys Asn Glu Ala Glu Asn Lys Leu Met His Ile Leu
 1419 3170 3175 3180
 1420 His Ala Asn Asp Pro Lys Trp Ser Thr Pro Thr Lys Asp Cys Thr Ser
 E--> 1421 3185 3190 3195 320
 1422 Gly Pro Tyr Thr Ala Gln Ile Ile Pro Gly Thr Gly Asn Lys Leu Leu
 1423 3205 3210 3215
 1424 Met Ser Ser Pro Asn Cys Glu Ile Tyr Tyr Gln Ser Pro Leu Ser Leu
 1425 3220 3225 3230
 1426 Cys Met Ala Lys Arg Lys Ser Val Ser Thr Pro Val Ser Ala Gln Met
 1427 3235 3240 3245
 1428 Thr Ser Lys Ser Cys Lys Gly Glu Lys Glu Ile Asp Asp Gln Lys Asn
 1429 3250 3255 3260
 1430 Cys Lys Lys Arg Arg Ala Leu Asp Phe Leu Ser Arg Leu Pro Leu Pro
 E--> 1431 3265 3270 3275 328
 1432 Pro Pro Val Ser Pro Ile Cys Thr Phe Val Ser Pro Ala Ala Gln Lys
 1433 3285 3290 3295
 1434 Ala Phe Gln Pro Pro Arg Ser Cys Gly Thr Lys Tyr Glu Thr Pro Ile
 1435 3300 3305 3310
 1436 Lys Lys Lys Glu Leu Asn Ser Pro Gln Met Thr Pro Phe Lys Lys Phe
 1437 3315 3320 3325
 1438 Asn Glu Ile Ser Leu Leu Glu Ser Asn Ser Ile Ala Asp Glu Glu Leu
 1439 3330 3335 3340
 1440 Ala Leu Ile Asn Thr Gln Ala Leu Leu Ser Gly Ser Thr Gly Glu Lys
 E--> 1441 3345 3350 3355 336
 1442 Gln Phe Ile Ser Val Ser Glu Ser Thr Arg Thr Ala Pro Thr Ser Ser
 1443 3365 3370 3375
 1444 Glu Asp Tyr Leu Arg Leu Lys Arg Arg Cys Thr Thr Ser Leu Ile Lys
 1445 3380 3385 3390
 1446 Glu Gln Glu Ser Ser Gln Ala Ser Thr Glu Glu Cys Glu Lys Asn Lys
 1447 3395 3400 3405
 1448 Gln Asp Thr Ile Thr Thr Lys Lys Tyr Ile
 1449 3410 3415
 2337 (2) INFORMATION FOR SEQ ID NO: 7:
 2339 (i) SEQUENCE CHARACTERISTICS:
 2340 (A) LENGTH: 3418 amino acids

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2341 (B) TYPE: amino acid
 2342 (C) STRANDEDNESS: single
 2343 (D) TOPOLOGY: linear
 2345 (ii) MOLECULE TYPE: protein
 2346 (v) FRAGMENT TYPE: internal
 2347 (ix) FEATURE:
 2348 (A) NAME/KEY: variation
 2349 (B) LOCATION: 1132
 2350 (D) OTHER INFORMATION: Xaa = Lys (from codon AAR,
 2351 R = A or G).
 2353 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:
 2355 Met Pro Ile Gly Ser Lys Glu Arg Pro Thr Phe Phe Glu Ile Phe Lys
 2356 1 5 10 15
 2357 Thr Arg Cys Asn Lys Ala Asp Leu Gly Pro Ile Ser Leu Asn Trp Phe
 2358 20 25 30
 2359 Glu Glu Leu Ser Ser Glu Ala Pro Pro Tyr Asn Ser Glu Pro Ala Glu
 2360 35 40 45
 2361 Glu Ser Glu His Lys Asn Asn Asn Tyr Glu Pro Asn Leu Phe Lys Thr
 2362 50 55 60
 2363 Pro Gln Arg Lys Pro Ser Tyr Asn Gln Leu Ala Ser Thr Pro Ile Ile
 2364 65 70 75 80
 2365 Phe Lys Glu Gln Gly Leu Thr Leu Pro Leu Tyr Gln Ser Pro Val Lys
 2366 85 90 95
 2367 Glu Leu Asp Lys Phe Lys Leu Asp Leu Gly Arg Asn Val Pro Asn Ser
 2368 100 105 110
 2369 Arg His Lys Ser Leu Arg Thr Val Lys Thr Lys Met Asp Gln Ala Asp
 2370 115 120 125
 2371 Asp Val Ser Cys Pro Leu Leu Asn Ser Cys Leu Ser Glu Ser Pro Val
 2372 130 135 140
 2373 Val Leu Gln Cys Thr His Val Thr Pro Gln Arg Asp Lys Ser Val Val
 2374 145 150 155 160
 2375 Cys Gly Ser Leu Phe His Thr Pro Lys Phe Val Lys Gly Arg Gln Thr
 2376 165 170 175
 2377 Pro Lys His Ile Ser Glu Ser Leu Gly Ala Glu Val Asp Pro Asp Met
 2378 180 185 190
 2379 Ser Trp Ser Ser Ser Leu Ala Thr Pro Pro Thr Leu Ser Ser Thr Val
 2380 195 200 205
 2381 Leu Ile Val Arg Asn Glu Glu Ala Ser Glu Thr Val Phe Pro His Asp
 2382 210 215 220
 2383 Thr Thr Ala Asn Val Lys Ser Tyr Phe Ser Asn His Asp Glu Ser Leu
 2384 225 230 235 240
 2385 Lys Lys Asn Asp Arg Phe Ile Ala Ser Val Thr Asp Ser Glu Asn Thr
 2386 245 250 255
 2387 Asn Gln Arg Glu Ala Ala Ser His Gly Phe Gly Lys Thr Ser Gly Asn
 2388 260 265 270
 2389 Ser Phe Lys Val Asn Ser Cys Lys Asp His Ile Gly Lys Ser Met Pro
 2390 275 280 285
 2391 Asn Val Leu Glu Asp Glu Val Tyr Glu Thr Val Val Asp Thr Ser Glu
 2392 290 295 300

PP-13-19

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2393 Glu Asp Ser Phe Ser Leu Cys Phe Ser Lys Cys Arg Thr Lys Asn Leu
2394 305 310 315 320
2395 Gln Lys Val Arg Thr Ser Lys Thr Arg Lys Lys Ile Phe His Glu Ala
2396 325 330 335
2397 Asn Ala Asp Glu Cys Glu Lys Ser Lys Asn Gln Val Lys Glu Lys Tyr
2398 340 345 350
2399 Ser Phe Val Ser Glu Val Glu Pro Asn Asp Thr Asp Pro Leu Asp Ser
2400 355 360 365
2401 Asn Val Ala His Gln Lys Pro Phe Glu Ser Gly Ser Asp Lys Ile Ser
2402 370 375 380
2403 Lys Glu Val Val Pro Ser Leu Ala Cys Glu Trp Ser Gln Leu Thr Leu
2404 385 390 395 400
2405 Ser Gly Leu Asn Gly Ala Gln Met Glu Lys Ile Pro Leu Leu His Ile
2406 405 410 415
2407 Ser Ser Cys Asp Gln Asn Ile Ser Glu Lys Asp Leu Leu Asp Thr Glu
2408 420 425 430
2409 Asn Lys Arg Lys Lys Asp Phe Leu Thr Ser Glu Asn Ser Leu Pro Arg
2410 435 440 445
2411 Ile Ser Ser Leu Pro Lys Ser Glu Lys Pro Leu Asn Glu Glu Thr Val
2412 450 455 460
2413 Val Asn Lys Arg Asp Glu Glu Gln His Leu Glu Ser His Thr Asp Cys
2414 465 470 475 480
2415 Ile Leu Ala Val Lys Gln Ala Ile Ser Gly Thr Ser Pro Val Ala Ser
2416 485 490 495
2417 Ser Phe Gln Gly Ile Lys Lys Ser Ile Phe Arg Ile Arg Glu Ser Pro
2418 500 505 510
2419 Lys Glu Thr Phe Asn Ala Ser Phe Ser Gly His Met Thr Asp Pro Asn
2420 515 520 525
2421 Phe Lys Lys Glu Thr Glu Ala Ser Glu Ser Gly Leu Glu Ile His Thr
2422 530 535 540
2423 Val Cys Ser Gln Lys Glu Asp Ser Leu Cys Pro Asn Leu Ile Asp Asn
2424 545 550 555 560
2425 Gly Ser Trp Pro Ala Thr Thr Gln Asn Ser Val Ala Leu Lys Asn
2426 565 570 575
2427 Ala Gly Leu Ile Ser Thr Leu Lys Lys Lys Thr Asn Lys Phe Ile Tyr
2428 580 585 590
2429 Ala Ile His Asp Glu Thr Ser Tyr Lys Gly Lys Lys Ile Pro Lys Asp
2430 595 600 605
2431 Gln Lys Ser Glu Leu Ile Asn Cys Ser Ala Gln Phe Glu Ala Asn Ala
2432 610 615 620
2433 Phe Glu Ala Pro Leu Thr Phe Ala Asn Ala Asp Ser Gly Leu Leu His
2434 625 630 635 640
2435 Ser Ser Val Lys Arg Ser Cys Ser Gln Asn Asp Ser Glu Glu Pro Thr
2436 645 650 655
2437 Leu Ser Leu Thr Ser Ser Phe Gly Thr Ile Leu Arg Lys Cys Ser Arg
2438 660 665 670
2439 Asn Glu Thr Cys Ser Asn Asn Thr Val Ile Ser Gln Asp Leu Asp Tyr
2440 675 680 685
2441 Lys Glu Ala Lys Cys Asn Lys Glu Lys Leu Gln Leu Phe Ile Thr Pro

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Input Set : A:\GL50581u.txt

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2442      690      695      700
2443 Glu Ala Asp Ser Leu Ser Cys Leu Gln Glu Gly Gln Cys Glu Asn Asp
2444 705      710      715      720
2445 Pro Lys Ser Lys Lys Val Ser Asp Ile Lys Glu Glu Val Leu Ala Ala
2446      725      730      735
2447 Ala Cys His Pro Val Gln His Ser Lys Val Glu Tyr Ser Asp Thr Asp
2448      740      745      750
2449 Phe Gln Ser Gln Lys Ser Leu Leu Tyr Asp His Glu Asn Ala Ser Thr
2450      755      760      765
2451 Leu Ile Leu Thr Pro Thr Ser Lys Asp Val Leu Ser Asn Leu Val Met
2452      770      775      780
2453 Ile Ser Arg Gly Lys Glu Ser Tyr Lys Met Ser Asp Lys Leu Lys Gly
2454 785      790      795      800
2455 Asn Asn Tyr Glu Ser Asp Val Glu Leu Thr Lys Asn Ile Pro Met Glu
2456      805      810      815
2457 Lys Asn Gln Asp Val Cys Ala Leu Asn Glu Asn Tyr Lys Asn Val Glu
2458      820      825      830
2459 Leu Leu Pro Pro Glu Lys Tyr Met Arg Val Ala Ser Pro Ser Arg Lys
2460      835      840      845
2461 Val Gln Phe Asn Gln Asn Thr Asn Leu Arg Val Ile Gln Lys Asn Gln
2462      850      855      860
2463 Glu Glu Thr Thr Ser Ile Ser Lys Ile Thr Val Asn Pro Asp Ser Glu
2464 865      870      875      880
2465 Glu Leu Phe Ser Asp Asn Glu Asn Asn Phe Val Phe Gln Val Ala Asn
2466      885      890      895
2467 Glu Arg Asn Asn Leu Ala Leu Gly Asn Thr Lys Glu Leu His Glu Thr
2468      900      905      910
2469 Asp Leu Thr Cys Val Asn Glu Pro Ile Phe Lys Asn Ser Thr Met Val
2470      915      920      925
2471 Leu Tyr Gly Asp Thr Gly Asp Lys Gln Ala Thr Gln Val Ser Ile Lys
2472      930      935      940
2473 Lys Asp Leu Val Tyr Val Leu Ala Glu Glu Asn Lys Asn Ser Val Lys
2474 945      950      955      960
2475 Gln His Ile Lys Met Thr Leu Gly Gln Asp Leu Lys Ser Asp Ile Ser
2476      965      970      975
2477 Leu Asn Ile Asp Lys Ile Pro Glu Lys Asn Asn Asp Tyr Met Asn Lys
2478      980      985      990
2479 Trp Ala Gly Leu Leu Gly Pro Ile Ser Asn His Ser Phe Gly Gly Ser
2480      995      1000      1005
2481 Phe Arg Thr Ala Ser Asn Lys Glu Ile Lys Leu Ser Glu His Asn Ile
2482      1010      1015      1020
2483 Lys Lys Ser Lys Met Phe Phe Lys Asp Ile Glu Glu Gln Tyr Pro Thr
E--> 2484 1025      1030      1035      1040
2485 Ser Leu Ala Cys Val Glu Ile Val Asn Thr Leu Ala Leu Asp Asn Gln
2486      1045      1050      1055
2487 Lys Lys Leu Ser Lys Pro Gln Ser Ile Asn Thr Val Ser Ala His Leu
2488      1060      1065      1070
2489 Gln Ser Ser Val Val Val Ser Asp Cys Lys Asn Ser His Ile Thr Pro
2490      1075      1080      1085

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Input Set : A:\G150581u.txt

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2491 Gln Met Leu Phe Ser Lys Gln Asp Phe Asn Ser Asn His Asn Leu Thr
 2492 1090 1095 1100
 2493 Pro Ser Gln Lys Ala Glu Ile Thr Glu Leu Ser Thr Ile Leu Glu Glu
 E--> 2494 1105 1110 1115 112
 W--> 2495 Ser Gly Ser Gln Phe Glu Phe Thr Gln Phe Arg Xaa Pro Ser Tyr Ile
 2496 1125 1130 1135
 2497 Leu Gln Lys Ser Thr Phe Glu Val Pro Glu Asn Gln Met Thr Ile Leu
 2498 1140 1145 1150
 2499 Lys Thr Thr Ser Glu Glu Cys Arg Asp Ala Asp Leu His Val Ile Met
 2500 1155 1160 1165
 2501 Asn Ala Pro Ser Ile Gly Gln Val Asp Ser Ser Lys Gln Phe Glu Gly
 2502 1170 1175 1180
 2503 Thr Val Glu Ile Lys Arg Lys Phe Ala Gly Leu Leu Lys Asn Asp Cys
 E--> 2504 1185 1190 1195 120
 2505 Asn Lys Ser Ala Ser Gly Tyr Leu Thr Asp Glu Asn Glu Val Gly Phe
 2506 1205 1210 1215
 2507 Arg Gly Phe Tyr Ser Ala His Gly Thr Lys Leu Asn Val Ser Thr Glu
 2508 1220 1225 1230
 2509 Ala Leu Gln Lys Ala Val Lys Leu Phe Ser Asp Ile Glu Asn Ile Ser
 2510 1235 1240 1245
 2511 Glu Glu Thr Ser Ala Glu Val His Pro Ile Ser Leu Ser Ser Ser Lys
 2512 1250 1255 1260
 2513 Cys His Asp Ser Val Val Ser Met Phe Lys Ile Glu Asn His Asn Asp
 E--> 2514 1265 1270 1275 128
 2515 Lys Thr Val Ser Glu Lys Asn Asn Lys Cys Gln Leu Ile Leu Gln Asn
 2516 1285 1290 1295
 2517 Asn Ile Glu Met Thr Thr Gly Thr Phe Val Glu Glu Ile Thr Glu Asn
 2518 1300 1305 1310
 2519 Tyr Lys Arg Asn Thr Glu Asn Glu Asp Asn Lys Tyr Thr Ala Ala Ser
 2520 1315 1320 1325
 2521 Arg Asn Ser His Asn Leu Glu Phe Asp Gly Ser Asp Ser Ser Lys Asn
 2522 1330 1335 1340
 2523 Asp Thr Val Cys Ile His Lys Asp Glu Thr Asp Leu Leu Phe Thr Asp
 E--> 2524 1345 1350 1355 136
 2525 Gln His Asn Ile Cys Leu Lys Leu Ser Gly Gln Phe Met Lys Glu Gly
 2526 1365 1370 1375
 2527 Asn Thr Gln Ile Lys Glu Asp Leu Ser Asp Leu Thr Phe Leu Glu Val
 2528 1380 1385 1390
 2529 Ala Lys Ala Gln Glu Ala Cys His Gly Asn Thr Ser Asn Lys Glu Gln
 2530 1395 1400 1405
 2531 Leu Thr Ala Thr Lys Thr Glu Gln Asn Ile Lys Asp Phe Glu Thr Ser
 2532 1410 1415 1420
 2533 Asp Thr Phe Phe Gln Thr Ala Ser Gly Lys Asn Ile Ser Val Ala Lys
 E--> 2534 1425 1430 1435 144
 2535 Glu Ser Phe Asn Lys Ile Val Asn Phe Phe Asp Gln Lys Pro Glu Glu
 2536 1445 1450 1455
 2537 Leu His Asn Phe Ser Leu Asn Ser Glu Leu His Ser Asp Ile Arg Lys
 2538 1460 1465 1470
 2539 Asn Lys Met Asp Ile Leu Ser Tyr Glu Glu Thr Asp Ile Val Lys His

*same
error*

RAW SEQUENCE LISTING

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Input Set : A:\G150581u.txt

Output Set: N:\CRF3\06252001\I084471B.raw

2540 1475 1480 1485
 2541 Lys Ile Leu Lys Glu Ser Val Pro Val Gly Thr Gly Asn Gln Leu Val
 2542 1490 1495 1500
 2543 Thr Phe Gln Gly Gln Pro Glu Arg Asp Glu Lys Ile Lys Glu Pro Thr
 E--> 2544 1505 1510 1515 152
 2545 Leu Leu Gly Phe His Thr Ala Ser Gly Lys Val Lys Ile Ala Lys
 2546 1525 1530 1535
 2547 Glu Ser Leu Asp Lys Val Lys Asn Leu Phe Asp Glu Lys Glu Gln Gly
 2548 1540 1545 1550
 2549 Thr Ser Glu Ile Thr Ser Phe Ser His Gln Trp Ala Lys Thr Leu Lys
 2550 1555 1560 1565
 2551 Tyr Arg Glu Ala Cys Lys Asp Leu Glu Leu Ala Cys Glu Thr Ile Glu
 2552 1570 1575 1580
 2553 Ile Thr Ala Ala Pro Lys Cys Lys Glu Met Gln Asn Ser Leu Asn Asn
 E--> 2554 1585 1590 1595 160
 2555 Asp Lys Asn Leu Val Ser Ile Glu Thr Val Val Pro Pro Lys Leu Leu
 2556 1605 1610 1615
 2557 Ser Asp Asn Leu Cys Arg Gln Thr Glu Asn Leu Lys Thr Ser Lys Ser
 2558 1620 1625 1630
 2559 Ile Phe Leu Lys Val Lys Val His Glu Asn Val Glu Lys Thr Thr Ala
 2560 1635 1640 1645
 2561 Lys Ser Pro Ala Thr Cys Tyr Thr Asn Gln Ser Pro Tyr Ser Val Ile
 2562 1650 1655 1660
 2563 Glu Asn Ser Ala Leu Ala Phe Tyr Thr Ser Cys Ser Arg Lys Thr Ser
 E--> 2564 1665 1670 1675 168
 2565 Val Ser Gln Thr Ser Leu Leu Glu Ala Lys Lys Trp Leu Arg Glu Gly
 2566 1685 1690 1695
 2567 Ile Phe Asp Gly Gln Pro Glu Arg Ile Asn Thr Ala Asp Tyr Val Gly
 2568 1700 1705 1710
 2569 Asn Tyr Leu Tyr Glu Asn Asn Ser Asn Ser Thr Ile Ala Glu Asn Asp
 2570 1715 1720 1725
 2571 Lys Asn His Leu Ser Glu Lys Gln Asp Thr Tyr Leu Ser Asn Ser Ser
 2572 1730 1735 1740
 2573 Met Ser Asn Ser Tyr Ser Tyr His Ser Asp Glu Val Tyr Asn Asp Ser
 E--> 2574 1745 1750 1755 176
 2575 Gly Tyr Leu Ser Lys Asn Lys Leu Asp Ser Gly Ile Glu Pro Val Leu
 2576 1765 1770 1775
 2577 Lys Asn Val Glu Asp Gln Lys Asn Thr Ser Phe Ser Lys Val Ile Ser
 2578 1780 1785 1790
 2579 Asn Val Lys Asp Ala Asn Ala Tyr Pro Gln Thr Val Asn Glu Asp Ile
 2580 1795 1800 1805
 2581 Cys Val Glu Glu Leu Val Thr Ser Ser Pro Cys Lys Asn Lys Asn
 2582 1810 1815 1820
 2583 Ala Ala Ile Lys Leu Ser Ile Ser Asn Ser Asn Asn Phe Glu Val Gly
 E--> 2584 1825 1830 1835 184
 2585 Pro Pro Ala Phe Arg Ile Ala Ser Gly Lys Ile Val Cys Val Ser His
 2586 1845 1850 1855
 2587 Glu Thr Ile Lys Lys Val Lys Asp Ile Phe Thr Asp Ser Phe Ser Lys
 2588 1860 1865 1870

same

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Input Set : A:\G150581u.txt

Output Set : N:\CRF3\06252001\I084471B.raw

2589 Val Ile Lys Glu Asn Asn Glu Asn Lys Ser Lys Ile Cys Gln Thr Lys
 2590 1875 1880 1885
 2591 Ile Met Ala Gly Cys Tyr Glu Ala Leu Asp Asp Ser Glu Asp Ile Leu
 2592 1890 1895 1900
 2593 His Asn Ser Leu Asp Asn Asp Glu Cys Ser Thr His Ser His Lys Val
 E--> 2594 1905 1910 1915 192
 2595 Phe Ala Asp Ile Gln Ser Glu Glu Ile Leu Gln His Asn Gln Asn Met
 2596 1925 1930 1935
 2597 Ser Gly Leu Glu Lys Val Ser Lys Ile Ser Pro Cys Asp Val Ser Leu
 2598 1940 1945 1950
 2599 Glu Thr Ser Asp Ile Cys Lys Cys Ser Ile Gly Lys Leu His Lys Ser
 2600 1955 1960 1965
 2601 Val Ser Ser Ala Asn Thr Cys Gly Ile Phe Ser Thr Ala Ser Gly Lys
 2602 1970 1975 1980
 2603 Ser Val Gln Val Ser Asp Ala Ser Leu Gln Asn Ala Arg Gln Val Phe
 E--> 2604 1985 1990 1995 200
 2605 Ser Glu Ile Glu Asp Ser Thr Lys Gln Val Phe Ser Lys Val Leu Phe
 2606 2005 2010 2015
 2607 Lys Ser Asn Glu His Ser Asp Gln Leu Thr Arg Glu Glu Asn Thr Ala
 2608 2020 2025 2030
 2609 Ile Arg Thr Pro Glu His Leu Ile Ser Gln Lys Gly Phe Ser Tyr Asn
 2610 2035 2040 2045
 2611 Val Val Asn Ser Ser Ala Phe Ser Gly Phe Ser Thr Ala Ser Gly Lys
 2612 2050 2055 2060
 2613 Gln Val Ser Ile Leu Glu Ser Ser Leu His Lys Val Lys Gly Val Leu
 E--> 2614 2065 2070 2075 208
 2615 Glu Glu Phe Asp Leu Ile Arg Thr Glu His Ser Leu His Tyr Ser Pro
 2616 2085 2090 2095
 2617 Thr Ser Arg Gln Asn Val Ser Lys Ile Leu Pro Arg Val Asp Lys Arg
 2618 2100 2105 2110
 2619 Asn Pro Glu His Cys Val Asn Ser Glu Met Glu Lys Thr Cys Ser Lys
 2620 2115 2120 2125
 2621 Glu Phe Lys Leu Ser Asn Asn Leu Asn Val Glu Gly Gly Ser Ser Glu
 2622 2130 2135 2140
 2623 Asn Asn His Ser Ile Lys Val Ser Pro Tyr Leu Ser Gln Phe Gln Gln
 E--> 2624 2145 2150 2155 216
 2625 Asp Lys Gln Gln Leu Val Leu Gly Thr Lys Val Ser Leu Val Glu Asn
 2626 2165 2170 2175
 2627 Ile His Val Leu Gly Lys Glu Gln Ala Ser Pro Lys Asn Val Lys Met
 2628 2180 2185 2190
 2629 Glu Ile Gly Lys Thr Glu Thr Phe Ser Asp Val Pro Val Lys Thr Asn
 2630 2195 2200 2205
 2631 Ile Glu Val Cys Ser Thr Tyr Ser Lys Asp Ser Glu Asn Tyr Phe Glu
 2632 2210 2215 2220
 2633 Thr Glu Ala Val Glu Ile Ala Lys Ala Phe Met Glu Asp Asp Glu Leu
 E--> 2634 2225 2230 2235 224
 2635 Thr Asp Ser Lys Leu Pro Ser His Ala Thr His Ser Leu Phe Thr Cys
 2636 2245 2250 2255
 2637 Pro Glu Asn Glu Glu Met Val Leu Ser Asn Ser Arg Ile Gly Lys Arg

same

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Input Set : A:\G150581u.txt

Output Set : N:\CRF3\06252001\I084471B.raw

2638 2260 2265 2270
 2639 Arg Gly Glu Pro Leu Ile Leu Val Gly Glu Pro Ser Ile Lys Arg Asn
 2640 2275 2280 2285
 2641 Leu Leu Asn Glu Phe Asp Arg Ile Ile Glu Asn Gln Glu Lys Ser Leu
 2642 2290 2295 2300
 2643 Lys Ala Ser Lys Ser Thr Pro Asp Gly Thr Ile Lys Asp Arg Arg Leu
 E--> 2644 2305 2310 2315 232
 2645 Phe Met His His Val Ser Leu Glu Pro Ile Thr Cys Val Pro Phe Arg
 2646 2325 2330 2335
 2647 Thr Thr Lys Glu Arg Gln Glu Ile Gln Asn Pro Asn Phe Thr Ala Pro
 2648 2340 2345 2350
 2649 Gly Gln Glu Phe Leu Ser Lys Ser His Leu Tyr Glu His Leu Thr Leu
 2650 2355 2360 2365
 2651 Glu Lys Ser Ser Ser Asn Leu Ala Val Ser Gly His Pro Phe Tyr Gln
 2652 2370 2375 2380
 2653 Val Ser Ala Thr Arg Asn Glu Lys Met Arg His Leu Ile Thr Thr Gly
 E--> 2654 2385 2390 2395 240
 2655 Arg Pro Thr Lys Val Phe Val Pro Pro Phe Lys Thr Lys Ser His Phe
 2656 2405 2410 2415
 2657 His Arg Val Glu Gln Cys Val Arg Asn Ile Asn Leu Glu Glu Asn Arg
 2658 2420 2425 2430
 2659 Gln Lys Gln Asn Ile Asp Gly His Gly Ser Asp Asp Ser Lys Asn Lys
 2660 2435 2440 2445
 2661 Ile Asn Asp Asn Glu Ile His Gln Phe Asn Lys Asn Asn Ser Asn Gln
 2662 2450 2455 2460
 2663 Ala Ala Ala Val Thr Phe Thr Lys Cys Glu Glu Glu Pro Leu Asp Leu
 E--> 2664 2465 2470 2475 248
 2665 Ile Thr Ser Leu Gln Asn Ala Arg Asp Ile Gln Asp Met Arg Ile Lys
 2666 2485 2490 2495
 2667 Lys Lys Gln Arg Gln Arg Val Phe Pro Gln Pro Gly Ser Leu Tyr Leu
 2668 2500 2505 2510
 2669 Ala Lys Thr Ser Thr Leu Pro Arg Ile Ser Leu Lys Ala Ala Val Gly
 2670 2515 2520 2525
 2671 Gly Gln Val Pro Ser Ala Cys Ser His Lys Gln Leu Tyr Thr Tyr Gly
 2672 2530 2535 2540
 2673 Val Ser Lys His Cys Ile Lys Ile Asn Ser Lys Asn Ala Glu Ser Phe
 E--> 2674 2545 2550 2555 256
 2675 Gln Phe His Thr Glu Asp Tyr Phe Gly Lys Glu Ser Leu Trp Thr Gly
 2676 2565 2570 2575
 2677 Lys Gly Ile Gln Leu Ala Asp Gly Gly Trp Leu Ile Pro Ser Asn Asp
 2678 2580 2585 2590
 2679 Gly Lys Ala Gly Lys Glu Glu Phe Tyr Arg Ala Leu Cys Asp Thr Pro
 2680 2595 2600 2605
 2681 Gly Val Asp Pro Lys Leu Ile Ser Arg Ile Trp Val Tyr Asn His Tyr
 2682 2610 2615 2620
 2683 Arg Trp Ile Ile Trp Lys Leu Ala Ala Met Glu Cys Ala Phe Pro Lys
 E--> 2684 2625 2630 2635 264
 2685 Glu Phe Ala Asn Arg Cys Leu Ser Pro Glu Arg Val Leu Leu Gln Leu
 2686 2645 2650 2655

same

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Input Set : A:\G150581u.txt

Output Set : N:\CRF3\06252001\I084471B.raw

2687 Lys Tyr Arg Tyr Asp Thr Glu Ile Asp Arg Ser Arg Arg Ser Ala Ile
 2688 2660 2665 2670
 2689 Lys Lys Ile Met Glu Arg Asp Asp Thr Ala Ala Lys Thr Leu Val Leu
 2690 2675 2680 2685
 2691 Cys Val Ser Asp Ile Ile Ser Leu Ser Ala Asn Ile Ser Glu Thr Ser
 2692 2690 2695 2700
 2693 Ser Asn Lys Thr Ser Ser Ala Asp Thr Gln Lys Val Ala Ile Ile Glu
 E--> 2694 2705 2710 2715 272
 2695 Leu Thr Asp Gly Trp Tyr Ala Val Lys Ala Gln Leu Asp Pro Pro Leu
 2696 2725 2730 2735
 2697 Leu Ala Val Leu Lys Asn Gly Arg Leu Thr Val Gly Gln Lys Ile Ile
 2698 2740 2745 2750
 2699 Leu His Gly Ala Glu Leu Val Gly Ser Pro Asp Ala Cys Thr Pro Leu
 2700 2755 2760 2765
 2701 Glu Ala Pro Glu Ser Leu Met Leu Lys Ile Ser Ala Asn Ser Thr Arg
 2702 2770 2775 2780
 2703 Pro Ala Arg Trp Tyr Thr Lys Leu Gly Phe Phe Pro Asp Pro Arg Pro
 E--> 2704 2785 2790 2795 280
 2705 Phe Pro Leu Pro Leu Ser Ser Leu Phe Ser Asp Gly Gly Asn Val Gly
 2706 2805 2810 2815
 2707 Cys Val Asp Val Ile Ile Gln Arg Ala Tyr Pro Ile Gln Trp Met Glu
 2708 2820 2825 2830
 2709 Lys Thr Ser Ser Gly Leu Tyr Ile Phe Arg Asn Glu Arg Glu Glu Glu
 2710 2835 2840 2845
 2711 Lys Glu Ala Ala Lys Tyr Val Glu Ala Gln Gln Lys Arg Leu Glu Ala
 2712 2850 2855 2860
 2713 Leu Phe Thr Lys Ile Gln Glu Glu Phe Glu Glu His Glu Glu Asn Thr
 E--> 2714 2865 2870 2875 288
 2715 Thr Lys Pro Tyr Leu Pro Ser Arg Ala Leu Thr Arg Gln Gln Val Arg
 2716 2885 2890 2895
 2717 Ala Leu Gln Asp Gly Ala Glu Leu Tyr Glu Ala Val Lys Asn Ala Ala
 2718 2900 2905 2910
 2719 Asp Pro Ala Tyr Leu Glu Gly Tyr Phe Ser Glu Glu Gln Leu Arg Ala
 2720 2915 2920 2925
 2721 Leu Asn Asn His Arg Gln Met Leu Asn Asp Lys Lys Gln Ala Gln Ile
 2722 2930 2935 2940
 2723 Gln Leu Glu Ile Arg Lys Ala Met Glu Ser Ala Glu Gln Lys Glu Gln
 E--> 2724 2945 2950 2955 296
 2725 Gly Leu Ser Arg Asp Val Thr Thr Val Trp Lys Leu Arg Ile Val Ser
 2726 2965 2970 2975
 2727 Tyr Ser Lys Lys Glu Lys Asp Ser Val Ile Leu Ser Ile Trp Arg Pro
 2728 2980 2985 2990
 2729 Ser Ser Asp Leu Tyr Ser Leu Leu Thr Glu Gly Lys Arg Tyr Arg Ile
 2730 2995 3000 3005
 2731 Tyr His Leu Ala Thr Ser Lys Ser Lys Ser Lys Ser Glu Arg Ala Asn
 2732 3010 3015 3020
 2733 Ile Gln Leu Ala Ala Thr Lys Lys Thr Gln Tyr Gln Gln Leu Pro Val
 E--> 2734 3025 3030 3035 304
 2735 Ser Asp Glu Ile Leu Phe Gln Ile Tyr Gln Pro Arg Glu Pro Leu His

same

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Input Set : A:\G150581u.txt

Output Set : N:\CRF3\06252001\I084471B.raw

2736 3045 3050 3055
 2737 Phe Ser Lys Phe Leu Asp Pro Asp Phe Gln Pro Ser Cys Ser Glu Val
 2738 3060 3065 3070
 2739 Asp Leu Ile Gly Phe Val Val Ser Val Val Lys Lys Thr Gly Leu Ala
 2740 3075 3080 3085
 2741 Pro Phe Val Tyr Leu Ser Asp Glu Cys Tyr Asn Leu Leu Ala Ile Lys
 2742 3090 3095 3100
 2743 Phe Trp Ile Asp Leu Asn Glu Asp Ile Ile Lys Pro His Met Leu Ile
 E--> 2744 3105 3110 3115 312
 2745 Ala Ala Ser Asn Leu Gln Trp Arg Pro Glu Ser Lys Ser Gly Leu Leu
 2746 3125 3130 3135
 2747 Thr Leu Phe Ala Gly Asp Phe Ser Val Phe Ser Ala Ser Pro Lys Glu
 2748 3140 3145 3150
 2749 Gly His Phe Gln Glu Thr Phe Asn Lys Met Lys Asn Thr Val Glu Asn
 2750 3155 3160 3165
 2751 Ile Asp Ile Leu Cys Asn Glu Ala Glu Asn Lys Leu Met His Ile Leu
 2752 3170 3175 3180
 2753 His Ala Asn Asp Pro Lys Trp Ser Thr Pro Thr Lys Asp Cys Thr Ser
 E--> 2754 3185 3190 3195 320
 2755 Gly Pro Tyr Thr Ala Gln Ile Ile Pro Gly Thr Gly Asn Lys Leu Leu
 2756 3205 3210 3215
 2757 Met Ser Ser Pro Asn Cys Glu Ile Tyr Tyr Gln Ser Pro Leu Ser Leu
 2758 3220 3225 3230
 2759 Cys Met Ala Lys Arg Lys Ser Val Ser Thr Pro Val Ser Ala Gln Met
 2760 3235 3240 3245
 2761 Thr Ser Lys Ser Cys Lys Gly Glu Lys Glu Ile Asp Asp Gln Lys Asn
 2762 3250 3255 3260
 2763 Cys Lys Lys Arg Arg Ala Leu Asp Phe Leu Ser Arg Leu Pro Leu Pro
 E--> 2764 3265 3270 3275 328
 2765 Pro Pro Val Ser Pro Ile Cys Thr Phe Val Ser Pro Ala Ala Gln Lys
 2766 3285 3290 3295
 2767 Ala Phe Gln Pro Pro Arg Ser Cys Gly Thr Lys Tyr Glu Thr Pro Ile
 2768 3300 3305 3310
 2769 Lys Lys Lys Glu Leu Asn Ser Pro Gln Met Thr Pro Phe Lys Lys Phe
 2770 3315 3320 3325
 2771 Asn Glu Ile Ser Leu Leu Glu Ser Asn Ser Ile Ala Asp Glu Glu Leu
 2772 3330 3335 3340
 2773 Ala Leu Ile Asn Thr Gln Ala Leu Leu Ser Gly Ser Thr Gly Glu Lys
 E--> 2774 3345 3350 3355 336
 2775 Gln Phe Ile Ser Val Ser Glu Ser Thr Arg Thr Ala Pro Thr Ser Ser
 2776 3365 3370 3375
 2777 Glu Asp Tyr Leu Arg Leu Lys Arg Arg Cys Thr Thr Ser Leu Ile Lys
 2778 3380 3385 3390
 2779 Glu Gln Glu Ser Ser Gln Ala Ser Thr Glu Glu Cys Glu Lys Asn Lys
 2780 3395 3400 3405
 2781 Gln Asp Thr Ile Thr Thr Lys Lys Tyr Ile
 2782 3410 3415
 3666 (2) INFORMATION FOR SEQ ID NO: 9:
 3668 (i) SEQUENCE CHARACTERISTICS:

Done
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Input Set : A:\G150581u.txt

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3669          (A) LENGTH: 3418 amino acids
3670          (B) TYPE: amino acid
3671          (C) STRANDEDNESS: single
3672          (D) TOPOLOGY: linear
3674          (ii) MOLECULE TYPE: protein
3675          (v) FRAGMENT TYPE: internal
3677          (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:
3679 Met Pro Ile Gly Ser Lys Glu Arg Pro Thr Phe Phe Glu Ile Phe Lys
3680      1      5      10
3681 Thr Arg Cys Asn Lys Ala Asp Leu Gly Pro Ile Ser Leu Asn Trp Phe
3682      20      25      30
3683 Glu Glu Leu Ser Ser Glu Ala Pro Pro Tyr Asn Ser Glu Pro Ala Glu
3684      35      40      45
3685 Glu Ser Glu His Lys Asn Asn Asn Tyr Glu Pro Asn Leu Phe Lys Thr
3686      50      55      60
3687 Pro Gln Arg Lys Pro Ser Tyr Asn Gln Leu Ala Ser Thr Pro Ile Ile
3688      65      70      75      80
3689 Phe Lys Glu Gln Gly Leu Thr Leu Pro Leu Tyr Gln Ser Pro Val Lys
3690      85      90      95
3691 Glu Leu Asp Lys Phe Lys Leu Asp Leu Gly Arg Asn Val Pro Asn Ser
3692      100     105     110
3693 Arg His Lys Ser Leu Arg Thr Val Lys Thr Lys Met Asp Gln Ala Asp
3694      115     120     125
3695 Asp Val Ser Cys Pro Leu Leu Asn Ser Cys Leu Ser Glu Ser Pro Val
3696      130     135     140
3697 Val Leu Gln Cys Thr His Val Thr Pro Gln Arg Asp Lys Ser Val Val
3698      145     150     155     160
3699 Cys Gly Ser Leu Phe His Thr Pro Lys Phe Val Lys Gly Arg Gln Thr
3700      165     170     175
3701 Pro Lys His Ile Ser Glu Ser Leu Gly Ala Glu Val Asp Pro Asp Met
3702      180     185     190
3703 Ser Trp Ser Ser Ser Leu Ala Thr Pro Pro Thr Leu Ser Ser Thr Val
3704      195     200     205
3705 Leu Ile Val Arg Asn Glu Glu Ala Ser Glu Thr Val Phe Pro His Asp
3706      210     215     220
3707 Thr Thr Ala Asn Val Lys Ser Tyr Phe Ser Asn His Asp Glu Ser Leu
3708      225     230     235     240
3709 Lys Lys Asn Asp Arg Phe Ile Ala Ser Val Thr Asp Ser Glu Asn Thr
3710      245     250     255
3711 Asn Gln Arg Glu Ala Ala Ser His Gly Phe Gly Lys Thr Ser Gly Asn
3712      260     265     270
3713 Ser Phe Lys Val Asn Ser Cys Lys Asp His Ile Gly Lys Ser Met Pro
3714      275     280     285
3715 His Val Leu Glu Asp Glu Val Tyr Glu Thr Val Val Asp Thr Ser Glu
3716      290     295     300
3717 Glu Asp Ser Phe Ser Leu Cys Phe Ser Lys Cys Arg Thr Lys Asn Leu
3718      305     310     315     320
3719 Gln Lys Val Arg Thr Ser Lys Thr Arg Lys Lys Ile Phe His Glu Ala
3720      325     330     335

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Input Set : A:\G150581u.txt

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```

3721 Asn Ala Asp Glu Cys Glu Lys Ser Lys Asn Gln Val Lys Glu Lys Tyr
3722          340          345          350
3723 Ser Phe Val Ser Glu Val Glu Pro Asn Asp Thr Asp Pro Leu Asp Ser
3724          355          360          365
3725 Asn Val Ala Asn Gln Lys Pro Phe Glu Ser Gly Ser Asp Lys Ile Ser
3726          370          375          380
3727 Lys Glu Val Val Pro Ser Leu Ala Cys Glu Trp Ser Gln Leu Thr Leu
3728          385          390          395          400
3729 Ser Gly Leu Asn Gly Ala Gln Met Glu Lys Ile Pro Leu Leu His Ile
3730          405          410          415
3731 Ser Ser Cys Asp Gln Asn Ile Ser Glu Lys Asp Leu Leu Asp Thr Glu
3732          420          425          430
3733 Asn Lys Arg Lys Lys Asp Phe Leu Thr Ser Glu Asn Ser Leu Pro Arg
3734          435          440          445
3735 Ile Ser Ser Leu Pro Lys Ser Glu Lys Pro Leu Asn Glu Glu Thr Val
3736          450          455          460
3737 Val Asn Lys Arg Asp Glu Glu Gln His Leu Glu Ser His Thr Asp Cys
3738          465          470          475          480
3739 Ile Leu Ala Val Lys Gln Ala Ile Ser Gly Thr Ser Pro Val Ala Ser
3740          485          490          495
3741 Ser Phe Gln Gly Ile Lys Lys Ser Ile Phe Arg Ile Arg Glu Ser Pro
3742          500          505          510
3743 Lys Glu Thr Phe Asn Ala Ser Phe Ser Gly His Met Thr Asp Pro Asn
3744          515          520          525
3745 Phe Lys Lys Glu Thr Glu Ala Ser Glu Ser Gly Leu Glu Ile His Thr
3746          530          535          540
3747 Val Cys Ser Gln Lys Glu Asp Ser Leu Cys Pro Asn Leu Ile Asp Asn
3748          545          550          555          560
3749 Gly Ser Trp Pro Ala Thr Thr Thr Gln Asn Ser Val Ala Leu Lys Asn
3750          565          570          575
3751 Ala Gly Leu Ile Ser Thr Leu Lys Lys Lys Thr Asn Lys Phe Ile Tyr
3752          580          585          590
3753 Ala Ile His Asp Glu Thr Ser Tyr Lys Lys Lys Ile Pro Lys Asp
3754          595          600          605
3755 Gln Lys Ser Glu Leu Ile Asn Cys Ser Ala Gln Phe Glu Ala Asn Ala
3756          610          615          620
3757 Phe Glu Ala Pro Leu Thr Phe Ala Asn Ala Asp Ser Gly Leu Leu His
3758          625          630          635          640
3759 Ser Ser Val Lys Arg Ser Cys Ser Gln Asn Asp Ser Glu Glu Pro Thr
3760          645          650          655
3761 Leu Ser Leu Thr Ser Ser Phe Gly Thr Ile Leu Arg Lys Cys Ser Arg
3762          660          665          670
3763 Asn Glu Thr Cys Ser Asn Asn Thr Val Ile Ser Gln Asp Leu Asp Tyr
3764          675          680          685
3765 Lys Glu Ala Lys Cys Asn Lys Glu Lys Leu Gln Leu Phe Ile Thr Pro
3766          690          695          700
3767 Glu Ala Asp Ser Leu Ser Cys Leu Gln Glu Gly Gln Cys Glu Asn Asp
3768          705          710          715          720
3769 Pro Lys Ser Lys Lys Val Ser Asp Ile Lys Glu Glu Val Leu Ala Ala

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Input Set : A:\G150581u.txt

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```

3770                               725                               730                               735
3771 Ala Cys His Pro Val Gln His Ser Lys Val Glu Tyr Ser Asp Thr Asp
3772                               740                               745                               750
3773 Phe Gln Ser Gln Lys Ser Leu Leu Tyr Asp His Glu Asn Ala Ser Thr
3774                               755                               760                               765
3775 Leu Ile Leu Thr Pro Thr Ser Lys Asp Val Leu Ser Asn Leu Val Met
3776                               770                               775                               780
3777 Ile Ser Arg Gly Lys Glu Ser Tyr Lys Met Ser Asp Lys Leu Lys Gly
3778                               785                               790                               795
3779 Asn Asn Tyr Glu Ser Asp Val Glu Leu Thr Lys Asn Ile Pro Met Glu
3780                               805                               810                               815
3781 Lys Asn Gln Asp Val Cys Ala Leu Asn Glu Asn Tyr Lys Asn Val Glu
3782                               820                               825                               830
3783 Leu Leu Pro Pro Glu Lys Tyr Met Arg Val Ala Ser Pro Ser Arg Lys
3784                               835                               840                               845
3785 Val Gln Phe Asn Gln Asn Thr Asn Leu Arg Val Ile Gln Lys Asn Gln
3786                               850                               855                               860
3787 Glu Glu Thr Thr Ser Ile Ser Lys Ile Thr Val Asn Pro Asp Ser Glu
3788                               865                               870                               875
3789 Glu Leu Phe Ser Asp Asn Glu Asn Asn Phe Val Phe Gln Val Ala Asn
3790                               885                               890                               895
3791 Glu Arg Asn Asn Leu Ala Leu Gly Asn Thr Lys Glu Leu His Glu Thr
3792                               900                               905                               910
3793 Asp Leu Thr Cys Val Asn Glu Pro Ile Phe Lys Asn Ser Thr Met Val
3794                               915                               920                               925
3795 Leu Tyr Gly Asp Thr Gly Asp Lys Gln Ala Thr Gln Val Ser Ile Lys
3796                               930                               935                               940
3797 Lys Asp Leu Val Tyr Val Leu Ala Glu Glu Asn Lys Asn Ser Val Lys
3798                               945                               950                               955
3799 Gln His Ile Lys Met Thr Leu Gly Gln Asp Leu Lys Ser Asp Ile Ser
3800                               965                               970                               975
3801 Leu Asn Ile Asp Lys Ile Pro Glu Lys Asn Asn Asp Tyr Met Asp Lys
3802                               980                               985                               990
3803 Trp Ala Gly Leu Leu Gly Pro Ile Ser Asn His Ser Phe Gly Gly Ser
3804                               995                               1000                               1005
3805 Phe Arg Thr Ala Ser Asn Lys Glu Ile Lys Leu Ser Glu His Asn Ile
3806                               1010                               1015                               1020
3807 Lys Lys Ser Lys Met Phe Phe Lys Asp Ile Glu Glu Gln Tyr Pro Thr
E--> 3808 1025 1030 1035 1040 1040
3809 Ser Leu Ala Cys Val Glu Ile Val Asn Thr Leu Ala Leu Asp Asn Gln
3810                               1045                               1050                               1055
3811 Lys Lys Leu Ser Lys Pro Gln Ser Ile Asn Thr Val Ser Ala His Leu
3812                               1060                               1065                               1070
3813 Gln Ser Ser Val Val Val Ser Asp Cys Lys Asn Ser His Ile Thr Pro
3814                               1075                               1080                               1085
3815 Gln Met Leu Phe Ser Lys Gln Asp Phe Asn Ser Asn His Asn Leu Thr
3816                               1090                               1095                               1100
3817 Pro Ser Gln Lys Ala Glu Ile Thr Glu Leu Ser Thr Ile Leu Glu Glu
E--> 3818 1105 1110 1115 1120 1120

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Input Set : A:\G150581u.txt

Output Set: N:\CRF3\06252001\I084471B.raw

3819 Ser Gly Ser Gln Phe Glu Phe Thr Gln Phe Arg Lys Pro Ser Tyr Ile
 3820 1125 1130 1135
 3821 Leu Gln Lys Ser Thr Phe Glu Val Pro Glu Asn Gln Met Thr Ile Leu
 3822 1140 1145 1150
 3823 Lys Thr Thr Ser Glu Glu Cys Arg Asp Ala Asp Leu His Val Ile Met
 3824 1155 1160 1165
 3825 Asn Ala Pro Ser Ile Gly Gln Val Asp Ser Ser Lys Gln Phe Glu Gly
 3826 1170 1175 1180
 3827 Thr Val Glu Ile Lys Arg Lys Phe Ala Gly Leu Leu Lys Asn Asp Cys
 E--> 3828 1185 1190 1195 120
 3829 Asn Lys Ser Ala Ser Gly Tyr Leu Thr Asp Glu Asn Glu Val Gly Phe
 3830 1205 1210 1215
 3831 Arg Gly Phe Tyr Ser Ala His Gly Thr Lys Leu Asn Val Ser Thr Glu
 3832 1220 1225 1230
 3833 Ala Leu Gln Lys Ala Val Lys Leu Phe Ser Asp Ile Glu Asn Ile Ser
 3834 1235 1240 1245
 3835 Glu Glu Thr Ser Ala Glu Val His Pro Ile Ser Leu Ser Ser Ser Lys
 3836 1250 1255 1260
 3837 Cys His Asp Ser Val Val Ser Met Phe Lys Ile Glu Asn His Asn Asp
 E--> 3838 1265 1270 1275 128
 3839 Lys Thr Val Ser Glu Lys Asn Asn Lys Cys Gln Leu Ile Leu Gln Asn
 3840 1285 1290 1295
 3841 Asn Ile Glu Met Thr Thr Gly Thr Phe Val Glu Glu Ile Thr Glu Asn
 3842 1300 1305 1310
 3843 Tyr Lys Arg Asn Thr Glu Asn Glu Asp Asn Lys Tyr Thr Ala Ala Ser
 3844 1315 1320 1325
 3845 Arg Asn Ser His Asn Leu Glu Phe Asp Gly Ser Asp Ser Ser Lys Asn
 3846 1330 1335 1340
 3847 Asp Thr Val Cys Ile His Lys Asp Glu Thr Asp Leu Leu Phe Thr Asp
 E--> 3848 1345 1350 1355 136
 3849 Gln His Asn Ile Cys Leu Lys Leu Ser Gly Gln Phe Met Lys Glu Gly
 3850 1365 1370 1375
 3851 Asn Thr Gln Ile Lys Glu Asp Leu Ser Asp Leu Thr Phe Leu Glu Val
 3852 1380 1385 1390
 3853 Ala Lys Ala Gln Glu Ala Cys His Gly Asn Thr Ser Asn Lys Glu Gln
 3854 1395 1400 1405
 3855 Leu Thr Ala Thr Lys Thr Glu Gln Asn Ile Lys Asp Phe Glu Thr Ser
 3856 1410 1415 1420
 3857 Asp Thr Phe Phe Gln Thr Ala Ser Gly Lys Asn Ile Ser Val Ala Lys
 E--> 3858 1425 1430 1435 144
 3859 Glu Ser Phe Asn Lys Ile Val Asn Phe Phe Asp Gln Lys Pro Glu Glu
 3860 1445 1450 1455
 3861 Leu His Asn Phe Ser Leu Asn Ser Glu Leu His Ser Asp Ile Arg Lys
 3862 1460 1465 1470
 3863 Asn Lys Met Asp Ile Leu Ser Tyr Glu Glu Thr Asp Ile Val Lys His
 3864 1475 1480 1485
 3865 Lys Ile Leu Lys Glu Ser Val Pro Val Gly Thr Gly Asn Gln Leu Val
 3866 1490 1495 1500
 3867 Thr Phe Gln Gly Gln Pro Glu Arg Asp Glu Lys Ile Lys Glu Pro Thr

same

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Input Set : A:\GL50581u.txt

Output Set : N:\CRF3\06252001\I084471B.raw

E--> 3868 1505 1510 1515 152
 3869 Leu Leu Gly Phe His Thr Ala Ser Gly Lys Lys Val Lys Ile Ala Lys
 3870 1525 1530 1535
 3871 Glu Ser Leu Asp Lys Val Lys Asn Leu Phe Asp Glu Lys Glu Gln Gly
 3872 1540 1545 1550
 3873 Thr Ser Glu Ile Thr Ser Phe Ser His Gln Trp Ala Lys Thr Leu Lys
 3874 1555 1560 1565
 3875 Tyr Arg Glu Ala Cys Lys Asp Leu Glu Leu Ala Cys Glu Thr Ile Glu
 3876 1570 1575 1580
 3877 Ile Thr Ala Ala Pro Lys Cys Lys Glu Met Gln Asn Ser Leu Asn Asn
 E--> 3878 1585 1590 1595 160
 3879 Asp Lys Asn Leu Val Ser Ile Glu Thr Val Val Pro Pro Lys Leu Leu
 3880 1605 1610 1615
 3881 Ser Asp Asn Leu Cys Arg Gln Thr Glu Asn Leu Lys Thr Ser Lys Ser
 3882 1620 1625 1630
 3883 Ile Phe Leu Lys Val Lys Val His Glu Asn Val Glu Lys Glu Thr Ala
 3884 1635 1640 1645
 3885 Lys Ser Pro Ala Thr Cys Tyr Thr Asn Gln Ser Pro Tyr Ser Val Ile
 3886 1650 1655 1660
 3887 Glu Asn Ser Ala Leu Ala Phe Tyr Thr Ser Cys Ser Arg Lys Thr Ser
 E--> 3888 1665 1670 1675 168
 3889 Val Ser Gln Thr Ser Leu Leu Glu Ala Lys Lys Trp Leu Arg Glu Gly
 3890 1685 1690 1695
 3891 Ile Phe Asp Gly Gln Pro Glu Arg Ile Asn Thr Ala Asp Tyr Val Gly
 3892 1700 1705 1710
 3893 Asn Tyr Leu Tyr Glu Asn Asn Ser Asn Ser Thr Ile Ala Glu Asn Asp
 3894 1715 1720 1725
 3895 Lys Asn His Leu Ser Glu Lys Gln Asp Thr Tyr Leu Ser Asn Ser Ser
 3896 1730 1735 1740
 3897 Met Ser Asn Ser Tyr Ser Tyr His Ser Asp Glu Val Tyr Asn Asp Ser
 E--> 3898 1745 1750 1755 176
 3899 Gly Tyr Leu Ser Lys Asn Lys Leu Asp Ser Gly Ile Glu Pro Val Leu
 3900 1765 1770 1775
 3901 Lys Asn Val Glu Asp Gln Lys Asn Thr Ser Phe Ser Lys Val Ile Ser
 3902 1780 1785 1790
 3903 Asn Val Lys Asp Ala Asn Ala Tyr Pro Gln Thr Val Asn Glu Asp Ile
 3904 1795 1800 1805
 3905 Cys Val Glu Glu Leu Val Thr Ser Ser Ser Pro Cys Lys Asn Lys Asn
 3906 1810 1815 1820
 3907 Ala Ala Ile Lys Leu Ser Ile Ser Asn Ser Asn Asn Phe Glu Val Gly
 E--> 3908 1825 1830 1835 184
 3909 Pro Pro Ala Phe Arg Ile Ala Ser Gly Lys Ile Val Cys Val Ser His
 3910 1845 1850 1855
 3911 Glu Thr Ile Lys Lys Val Lys Asp Ile Phe Thr Asp Ser Phe Ser Lys
 3912 1860 1865 1870
 3913 Val Ile Lys Glu Asn Asn Glu Asn Lys Ser Lys Ile Cys Gln Thr Lys
 3914 1875 1880 1885
 3915 Ile Met Ala Gly Cys Tyr Glu Ala Leu Asp Asp Ser Glu Asp Ile Leu
 3916 1890 1895 1900

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Input Set : A:\G150581u.txt

Output Set : N:\CRF3\06252001\I084471B.raw

3917 His Asn Ser Leu Asp Asn Asp Glu Cys Ser Thr His Ser His Lys Val
 E--> 3918 1905 1910 1915 192
 3919 Phe Ala Asp Ile Gln Ser Glu Glu Ile Leu Gln His Asn Gln Asn Met
 3920 1925 1930 1935
 3921 Ser Gly Leu Glu Lys Val Ser Lys Ile Ser Pro Cys Asp Val Ser Leu
 3922 1940 1945 1950
 3923 Glu Thr Ser Asp Ile Cys Lys Cys Ser Ile Gly Lys Leu His Lys Ser
 3924 1955 1960 1965
 3925 Val Ser Ser Ala Asn Thr Cys Gly Ile Phe Ser Thr Ala Ser Gly Lys
 3926 1970 1975 1980
 3927 Ser Val Gln Val Ser Asp Ala Ser Leu Gln Asn Ala Arg Gln Val Phe
 E--> 3928 1985 1990 1995 200
 3929 Ser Glu Ile Glu Asp Ser Thr Lys Gln Val Phe Ser Lys Val Leu Phe
 3930 2005 2010 2015
 3931 Lys Ser Asn Glu His Ser Asp Gln Leu Thr Arg Glu Glu Asn Thr Ala
 3932 2020 2025 2030
 3933 Ile Arg Thr Pro Glu His Leu Ile Ser Gln Lys Gly Phe Ser Tyr Asn
 3934 2035 2040 2045
 3935 Val Val Asn Ser Ser Ala Phe Ser Gly Phe Ser Thr Ala Ser Gly Lys
 3936 2050 2055 2060
 3937 Gln Val Ser Ile Leu Glu Ser Ser Leu His Lys Val Lys Gly Val Leu
 E--> 3938 2065 2070 2075 208
 3939 Glu Glu Phe Asp Leu Ile Arg Thr Glu His Ser Leu His Tyr Ser Pro
 3940 2085 2090 2095
 3941 Thr Ser Arg Gln Asn Val Ser Lys Ile Leu Pro Arg Val Asp Lys Arg
 3942 2100 2105 2110
 3943 Asn Pro Glu His Cys Val Asn Ser Glu Met Glu Lys Thr Cys Ser Lys
 3944 2115 2120 2125
 3945 Glu Phe Lys Leu Ser Asn Asn Leu Asn Val Glu Gly Gly Ser Ser Glu
 3946 2130 2135 2140
 3947 Asn Asn His Ser Ile Lys Val Ser Pro Tyr Leu Ser Gln Phe Gln Gln
 E--> 3948 2145 2150 2155 216
 3949 Asp Lys Gln Gln Leu Val Leu Gly Thr Lys Val Ser Leu Val Glu Asn
 3950 2165 2170 2175
 3951 Ile His Val Leu Gly Lys Glu Gln Ala Ser Pro Lys Asn Val Lys Met
 3952 2180 2185 2190
 3953 Glu Ile Gly Lys Thr Glu Thr Phe Ser Asp Val Pro Val Lys Thr Asn
 3954 2195 2200 2205
 3955 Ile Glu Val Cys Ser Thr Tyr Ser Lys Asp Ser Glu Asn Tyr Phe Glu
 3956 2210 2215 2220
 3957 Thr Glu Ala Val Glu Ile Ala Lys Ala Phe Met Glu Asp Asp Glu Leu
 E--> 3958 2225 2230 2235 224
 3959 Thr Asp Ser Lys Leu Pro Ser His Ala Thr His Ser Leu Phe Thr Cys
 3960 2245 2250 2255
 3961 Pro Glu Asn Glu Glu Met Val Leu Ser Asn Ser Arg Ile Gly Lys Arg
 3962 2260 2265 2270
 3963 Arg Gly Glu Pro Leu Ile Leu Val Gly Glu Pro Ser Ile Lys Arg Asn
 3964 2275 2280 2285
 3965 Leu Leu Asn Glu Phe Asp Arg Ile Ile Glu Asn Gln Glu Lys Ser Leu

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Input Set : A:\G150581u.txt

Output Set : N:\CRF3\06252001\I084471B.raw

3966 2290 2295 2300
 3967 Lys Ala Ser Lys Ser Thr Pro Asp Gly Thr Ile Lys Asp Arg Arg Leu
 E--> 3968 2305 2310 2315 232
 3969 Phe Met His His Val Ser Leu Glu Pro Ile Thr Cys Val Pro Phe Arg
 3970 2325 2330 2335
 3971 Thr Thr Lys Glu Arg Gln Glu Ile Gln Asn Pro Asn Phe Thr Ala Pro
 3972 2340 2345 2350
 3973 Gly Gln Glu Phe Leu Ser Lys Ser His Leu Tyr Glu His Leu Thr Leu
 3974 2355 2360 2365
 3975 Glu Lys Ser Ser Ser Asn Leu Ala Val Ser Gly His Pro Phe Tyr Gln
 3976 2370 2375 2380
 3977 Val Ser Ala Thr Arg Asn Glu Lys Met Arg His Leu Ile Thr Thr Gly
 E--> 3978 2385 2390 2395 240
 3979 Arg Pro Thr Lys Val Phe Val Pro Pro Phe Lys Thr Lys Ser His Phe
 3980 2405 2410 2415
 3981 His Arg Val Glu Gln Cys Val Arg Asn Ile Asn Leu Glu Glu Asn Arg
 3982 2420 2425 2430
 3983 Gln Lys Gln Asn Ile Asp Gly His Gly Ser Asp Asp Ser Lys Asn Lys
 3984 2435 2440 2445
 3985 Ile Asn Asp Asn Glu Ile His Gln Phe Asn Lys Asn Asn Ser Asn Gln
 3986 2450 2455 2460
 3987 Ala Ala Ala Val Thr Phe Thr Lys Cys Glu Glu Glu Pro Leu Asp Leu
 E--> 3988 2465 2470 2475 248
 3989 Ile Thr Ser Leu Gln Asn Ala Arg Asp Ile Gln Asp Met Arg Ile Lys
 3990 2485 2490 2495
 3991 Lys Lys Gln Arg Gln Arg Val Phe Pro Gln Pro Gly Ser Leu Tyr Leu
 3992 2500 2505 2510
 3993 Ala Lys Thr Ser Thr Leu Pro Arg Ile Ser Leu Lys Ala Ala Val Gly
 3994 2515 2520 2525
 3995 Gly Gln Val Pro Ser Ala Cys Ser His Lys Gln Leu Tyr Thr Tyr Gly
 3996 2530 2535 2540
 3997 Val Ser Lys His Cys Ile Lys Ile Asn Ser Lys Asn Ala Glu Ser Phe
 E--> 3998 2545 2550 2555 256
 3999 Gln Phe His Thr Glu Asp Tyr Phe Gly Lys Glu Ser Leu Trp Thr Gly
 4000 2565 2570 2575
 4001 Lys Gly Ile Gln Leu Ala Asp Gly Gly Trp Leu Ile Pro Ser Asn Asp
 4002 2580 2585 2590
 4003 Gly Lys Ala Gly Lys Glu Glu Phe Tyr Arg Ala Leu Cys Asp Thr Pro
 4004 2595 2600 2605
 4005 Gly Val Asp Pro Lys Leu Ile Ser Arg Ile Trp Val Tyr Asn His Tyr
 4006 2610 2615 2620
 4007 Arg Trp Ile Ile Trp Lys Leu Ala Ala Met Glu Cys Ala Phe Pro Lys
 E--> 4008 2625 2630 2635 264
 4009 Glu Phe Ala Asn Arg Cys Leu Ser Pro Glu Arg Val Leu Leu Gln Leu
 4010 2645 2650 2655
 4011 Lys Tyr Arg Tyr Asp Thr Glu Ile Asp Arg Ser Arg Arg Ser Ala Ile
 4012 2660 2665 2670
 4013 Lys Lys Ile Met Glu Arg Asp Asp Thr Ala Ala Lys Thr Leu Val Leu
 4014 2675 2680 2685

same

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Input Set : A:\G150581u.txt

Output Set : N:\CRF3\06252001\I084471B.raw

4015 Cys Val Ser Asp Ile Ile Ser Leu Ser Ala Asn Ile Ser Glu Thr Ser
 4016 2690 2695 2700
 4017 Ser Asn Lys Thr Ser Ser Ala Asp Thr Gln Lys Val Ala Ile Ile Glu
 E--> 4018 2705 2710 2715 272
 4019 Leu Thr Asp Gly Trp Tyr Ala Val Lys Ala Gln Leu Asp Pro Pro Leu
 4020 2725 2730 2735
 4021 Leu Ala Val Leu Lys Asn Gly Arg Leu Thr Val Gly Gln Lys Ile Ile
 4022 2740 2745 2750
 4023 Leu His Gly Ala Glu Leu Val Gly Ser Pro Asp Ala Cys Thr Pro Leu
 4024 2755 2760 2765
 4025 Glu Ala Pro Glu Ser Leu Met Leu Lys Ile Ser Ala Asn Ser Thr Arg
 4026 2770 2775 2780
 4027 Pro Ala Arg Trp Tyr Thr Lys Leu Gly Phe Phe Pro Asp Pro Arg Pro
 E--> 4028 2785 2790 2795 280
 4029 Phe Pro Leu Pro Leu Ser Ser Leu Phe Ser Asp Gly Gly Asn Val Gly
 4030 2805 2810 2815
 4031 Cys Val Asp Val Ile Ile Gln Arg Ala Tyr Pro Ile Gln Trp Met Glu
 4032 2820 2825 2830
 4033 Lys Thr Ser Ser Gly Leu Tyr Ile Phe Arg Asn Glu Arg Glu Glu Glu
 4034 2835 2840 2845
 4035 Lys Glu Ala Ala Lys Tyr Val Glu Ala Gln Gln Lys Arg Leu Glu Ala
 4036 2850 2855 2860
 4037 Leu Phe Thr Lys Ile Gln Glu Glu Phe Glu Glu His Glu Glu Asn Thr
 E--> 4038 2865 2870 2875 288
 4039 Thr Lys Pro Tyr Leu Pro Ser Arg Ala Leu Thr Arg Gln Gln Val Arg
 4040 2885 2890 2895
 4041 Ala Leu Gln Asp Gly Ala Glu Leu Tyr Glu Ala Val Lys Asn Ala Ala
 4042 2900 2905 2910
 4043 Asp Pro Ala Tyr Leu Glu Gly Tyr Phe Ser Glu Glu Gln Leu Arg Ala
 4044 2915 2920 2925
 4045 Leu Asn Asn His Arg Gln Met Leu Asn Asp Lys Lys Gln Ala Gln Ile
 4046 2930 2935 2940
 4047 Gln Leu Glu Ile Arg Lys Ala Met Glu Ser Ala Glu Gln Lys Glu Gln
 E--> 4048 2945 2950 2955 296
 4049 Gly Leu Ser Arg Asp Val Thr Thr Val Trp Lys Leu Arg Ile Val Ser
 4050 2965 2970 2975
 4051 Tyr Ser Lys Lys Glu Lys Asp Ser Val Ile Leu Ser Ile Trp Arg Pro
 4052 2980 2985 2990
 4053 Ser Ser Asp Leu Tyr Ser Leu Leu Thr Glu Gly Lys Arg Tyr Arg Ile
 4054 2995 3000 3005
 4055 Tyr His Leu Ala Thr Ser Lys Ser Lys Ser Lys Ser Glu Arg Ala Asn
 4056 3010 3015 3020
 4057 Ile Gln Leu Ala Ala Thr Lys Lys Thr Gln Tyr Gln Gln Leu Pro Val
 E--> 4058 3025 3030 3035 304
 4059 Ser Asp Glu Ile Leu Phe Gln Ile Tyr Gln Pro Arg Glu Pro Leu His
 4060 3045 3050 3055
 4061 Phe Ser Lys Phe Leu Asp Pro Asp Phe Gln Pro Ser Cys Ser Glu Val
 4062 3060 3065 3070
 4063 Asp Leu Ile Gly Phe Val Val Ser Val Val Lys Lys Thr Gly Leu Ala

same

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/084,471B

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Input Set : A:\G150581u.txt

Output Set : N:\CRF3\06252001\I084471B.raw

4064 3075 3080 3085
 4065 Pro Phe Val Tyr Leu Ser Asp Glu Cys Tyr Asn Leu Leu Ala Ile Lys
 4066 3090 3095 3100
 4067 Phe Trp Ile Asp Leu Asn Glu Asp Ile Ile Lys Pro His Met Leu Ile
 E--> 4068 3105 3110 3115 312
 4069 Ala Ala Ser Asn Leu Gln Trp Arg Pro Glu Ser Lys Ser Gly Leu Leu
 4070 3125 3130 3135
 4071 Thr Leu Phe Ala Gly Asp Phe Ser Val Phe Ser Ala Ser Pro Lys Glu
 4072 3140 3145 3150
 4073 Gly His Phe Gln Glu Thr Phe Asn Lys Met Lys Asn Thr Val Glu Asn
 4074 3155 3160 3165
 4075 Ile Asp Ile Leu Cys Asn Glu Ala Glu Asn Lys Leu Met His Ile Leu
 4076 3170 3175 3180
 4077 His Ala Asn Asp Pro Lys Trp Ser Thr Pro Thr Lys Asp Cys Thr Ser
 E--> 4078 3185 3190 3195 320
 4079 Gly Pro Tyr Thr Ala Gln Ile Ile Pro Gly Thr Gly Asn Lys Leu Leu
 4080 3205 3210 3215
 4081 Met Ser Ser Pro Asn Cys Glu Ile Tyr Tyr Gln Ser Pro Leu Ser Leu
 4082 3220 3225 3230
 4083 Cys Met Ala Lys Arg Lys Ser Val Ser Thr Pro Val Ser Ala Gln Met
 4084 3235 3240 3245
 4085 Thr Ser Lys Ser Cys Lys Gly Glu Lys Glu Ile Asp Asp Gln Lys Asn
 4086 3250 3255 3260
 4087 Cys Lys Lys Arg Arg Ala Leu Asp Phe Leu Ser Arg Leu Pro Leu Pro
 E--> 4088 3265 3270 3275 328
 4089 Pro Pro Val Ser Pro Ile Cys Thr Phe Val Ser Pro Ala Ala Gln Lys
 4090 3285 3290 3295
 4091 Ala Phe Gln Pro Pro Arg Ser Cys Gly Thr Lys Tyr Glu Thr Pro Ile
 4092 3300 3305 3310
 4093 Lys Lys Lys Glu Leu Asn Ser Pro Gln Met Thr Pro Phe Lys Lys Phe
 4094 3315 3320 3325
 4095 Asn Glu Ile Ser Leu Leu Glu Ser Asn Ser Ile Ala Asp Glu Glu Leu
 4096 3330 3335 3340
 4097 Ala Leu Ile Asn Thr Gln Ala Leu Leu Ser Gly Ser Thr Gly Glu Lys
 E--> 4098 3345 3350 3355 336
 4099 Gln Phe Ile Ser Val Ser Glu Ser Thr Arg Thr Ala Pro Thr Ser Ser
 4100 3365 3370 3375
 4101 Glu Asp Tyr Leu Arg Leu Lys Arg Arg Cys Thr Thr Ser Leu Ile Lys
 4102 3380 3385 3390
 4103 Glu Gln Glu Ser Ser Gln Ala Ser Thr Glu Glu Cys Glu Lys Asn Lys
 4104 3395 3400 3405
 4105 Gln Asp Thr Ile Thr Thr Lys Lys Tyr Ile
 4106 3410 3415
 4990 (2) INFORMATION FOR SEQ ID NO: 11:
 4992 (i) SEQUENCE CHARACTERISTICS:
 4993 (A) LENGTH: 3418 amino acids
 4994 (B) TYPE: amino acid
 4995 (C) STRANDEDNESS: single
 4996 (D) TOPOLOGY: linear

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/084,471B

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Input Set : A:\G150581u.txt

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```

4998      (ii) MOLECULE TYPE: protein
4999      (v) FRAGMENT TYPE: internal
5001      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:
5003 Met  Pro  Ile  Gly  Ser  Lys  Glu  Arg  Pro  Thr  Phe  Phe  Glu  Ile  Phe  Lys
5004      1          5          10          15
5005 Thr  Arg  Cys  Asn  Lys  Ala  Asp  Leu  Gly  Pro  Ile  Ser  Leu  Asn  Trp  Phe
5006      20          25          30
5007 Glu  Glu  Leu  Ser  Ser  Glu  Ala  Pro  Tyr  Asn  Ser  Glu  Pro  Ala  Glu
5008      35          40          45
5009 Glu  Ser  Glu  His  Lys  Asn  Asn  Asn  Tyr  Glu  Pro  Asn  Leu  Phe  Lys  Thr
5010      50          55          60
5011 Pro  Gln  Arg  Lys  Pro  Ser  Tyr  Asn  Gln  Leu  Ala  Ser  Thr  Pro  Ile  Ile
5012      65          70          75          80
5013 Phe  Lys  Glu  Gln  Gly  Leu  Thr  Leu  Pro  Leu  Tyr  Gln  Ser  Pro  Val  Lys
5014      85          90          95
5015 Glu  Leu  Asp  Lys  Phe  Lys  Leu  Asp  Leu  Gly  Arg  Asn  Val  Pro  Asn  Ser
5016      100         105         110
5017 Arg  His  Lys  Ser  Leu  Arg  Thr  Val  Lys  Thr  Lys  Met  Asp  Gln  Ala  Asp
5018      115         120         125
5019 Asp  Val  Ser  Cys  Pro  Leu  Leu  Asn  Ser  Cys  Leu  Ser  Glu  Ser  Pro  Val
5020      130         135         140
5021 Val  Leu  Gln  Cys  Thr  His  Val  Thr  Pro  Gln  Arg  Asp  Lys  Ser  Val  Val
5022      145         150         155         160
5023 Cys  Gly  Ser  Leu  Phe  His  Thr  Pro  Lys  Phe  Val  Lys  Gly  Arg  Gln  Thr
5024      165         170         175
5025 Pro  Lys  His  Ile  Ser  Glu  Ser  Leu  Gly  Ala  Glu  Val  Asp  Pro  Asp  Met
5026      180         185         190
5027 Ser  Trp  Ser  Ser  Ser  Leu  Ala  Thr  Pro  Pro  Thr  Leu  Ser  Ser  Thr  Val
5028      195         200         205
5029 Leu  Ile  Val  Arg  Asn  Glu  Glu  Ala  Ser  Glu  Thr  Val  Phe  Pro  His  Asp
5030      210         215         220
5031 Thr  Thr  Ala  Asn  Val  Lys  Ser  Tyr  Phe  Ser  Asn  His  Asp  Glu  Ser  Leu
5032      225         230         235         240
5033 Lys  Lys  Asn  Asp  Arg  Phe  Ile  Ala  Ser  Val  Thr  Asp  Ser  Glu  Asn  Thr
5034      245         250         255
5035 Asn  Gln  Arg  Glu  Ala  Ala  Ser  His  Gly  Phe  Gly  Lys  Thr  Ser  Gly  Asn
5036      260         265         270
5037 Ser  Phe  Lys  Val  Asn  Ser  Cys  Lys  Asp  His  Ile  Gly  Lys  Ser  Met  Pro
5038      275         280         285
5039 Asn  Val  Leu  Glu  Asp  Glu  Val  Tyr  Glu  Thr  Val  Val  Asp  Thr  Ser  Glu
5040      290         295         300
5041 Glu  Asp  Ser  Phe  Ser  Leu  Cys  Phe  Ser  Lys  Cys  Arg  Thr  Lys  Asn  Leu
5042      305         310         315         320
5043 Gln  Lys  Val  Arg  Thr  Ser  Lys  Thr  Arg  Lys  Lys  Ile  Phe  His  Glu  Ala
5044      325         330         335
5045 Asn  Ala  Asp  Glu  Cys  Glu  Lys  Ser  Lys  Asn  Gln  Val  Lys  Glu  Lys  Tyr
5046      340         345         350
5047 Ser  Phe  Val  Ser  Glu  Val  Glu  Pro  Asn  Asp  Thr  Asp  Pro  Leu  Asp  Ser
5048      355         360         365

```

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/084,471B

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 TIME: 11:40:55

Input Set : A:\G150581u.txt
 Output Set : N:\CRF3\06252001\I084471B.raw

```

5049 Asn Val Ala His Gln Lys Pro Phe Glu Ser Gly Ser Asp Lys Ile Ser
5050      370      375      380
5051 Lys Glu Val Val Pro Ser Leu Ala Cys Glu Trp Ser Gln Leu Thr Leu
5052      385      390      395      400
5053 Ser Gly Leu Asn Gln Ala Gln Met Glu Lys Ile Pro Leu Leu His Ile
5054      405      410      415
5055 Ser Ser Cys Asp Gln Asn Ile Ser Glu Lys Asp Leu Leu Asp Thr Glu
5056      420      425      430
5057 Asn Lys Arg Lys Lys Asp Phe Leu Thr Ser Glu Asn Ser Leu Pro Arg
5058      435      440      445
5059 Ile Ser Ser Leu Pro Lys Ser Glu Lys Pro Leu Asn Glu Glu Thr Val
5060      450      455      460
5061 Val Asn Lys Arg Asp Glu Glu Gln His Leu Glu Ser His Thr Asp Cys
5062      465      470      475      480
5063 Ile Leu Ala Val Lys Gln Ala Ile Ser Gly Thr Ser Pro Val Ala Ser
5064      485      490      495
5065 Ser Phe Gln Gly Ile Lys Lys Ser Ile Phe Arg Ile Arg Glu Ser Pro
5066      500      505      510
5067 Lys Glu Thr Phe Asn Ala Ser Phe Ser Gly His Met Thr Asp Pro Asn
5068      515      520      525
5069 Phe Lys Lys Glu Thr Glu Ala Ser Glu Ser Gly Leu Glu Ile His Thr
5070      530      535      540
5071 Val Cys Ser Gln Lys Glu Asp Ser Leu Cys Pro Asn Leu Ile Asp Asn
5072      545      550      555      560
5073 Gly Ser Trp Pro Ala Thr Thr Thr Gln Asn Ser Val Ala Leu Lys Asn
5074      565      570      575
5075 Ala Gly Leu Ile Ser Thr Leu Lys Lys Lys Thr Asn Lys Phe Ile Tyr
5076      580      585      590
5077 Ala Ile His Asp Glu Thr Ser Tyr Lys Gly Lys Lys Ile Pro Lys Asp
5078      595      600      605
5079 Gln Lys Ser Glu Leu Ile Asn Cys Ser Ala Gln Phe Glu Ala Asn Ala
5080      610      615      620
5081 Phe Glu Ala Pro Leu Thr Phe Ala Asn Ala Asp Ser Gly Leu Leu His
5082      625      630      635      640
5083 Ser Ser Val Lys Arg Ser Cys Ser Gln Asn Asp Ser Glu Glu Pro Thr
5084      645      650      655
5085 Leu Ser Leu Thr Ser Ser Phe Gly Thr Ile Leu Arg Lys Cys Ser Arg
5086      660      665      670
5087 Asn Glu Thr Cys Ser Asn Asn Thr Val Ile Ser Gln Asp Leu Asp Tyr
5088      675      680      685
5089 Lys Glu Ala Lys Cys Asn Lys Glu Lys Leu Gln Leu Phe Ile Thr Pro
5090      690      695      700
5091 Glu Ala Asp Ser Leu Ser Cys Leu Gln Glu Gly Gln Cys Glu Asn Asp
5092      705      710      715      720
5093 Pro Lys Ser Lys Lys Val Ser Asp Ile Lys Glu Glu Val Leu Ala Ala
5094      725      730      735
5095 Ala Cys His Pro Val Gln His Ser Lys Val Glu Tyr Ser Asp Thr Asp
5096      740      745      750
5097 Phe Gln Ser Gln Lys Ser Leu Leu Tyr Asp His Glu Asn Ala Ser Thr

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/084,471B

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Input Set : A:\G150581u.txt

Output Set : N:\CRF3\06252001\I084471B.raw

```

5098          755          760          765
5099 Leu Ile Leu Thr Pro Thr Ser Lys Asp Val Leu Ser Asn Leu Val Met
5100          770          775          780
5101 Ile Ser Arg Gly Lys Glu Ser Tyr Lys Met Ser Asp Lys Leu Lys Gly
5102 785          790          795          800
5103 Asn Asn Tyr Glu Ser Asp Val Glu Leu Thr Lys Asn Ile Pro Met Glu
5104          805          810          815
5105 Lys Asn Gln Asp Val Cys Ala Leu Asn Glu Asn Tyr Lys Asn Val Glu
5106          820          825          830
5107 Leu Leu Pro Pro Glu Lys Tyr Met Arg Val Ala Ser Pro Ser Arg Lys
5108          835          840          845
5109 Val Gln Phe Asn Gln Asn Thr Asn Leu Arg Val Ile Gln Lys Asn Gln
5110          850          855          860
5111 Glu Glu Thr Thr Ser Ile Ser Lys Ile Thr Val Asn Pro Asp Ser Glu
5112 865          870          875          880
5113 Glu Leu Phe Ser Asp Asn Glu Asn Asn Phe Val Phe Gln Val Ala Asn
5114          885          890          895
5115 Glu Arg Asn Asn Leu Ala Leu Gly Asn Thr Lys Glu Leu His Glu Thr
5116          900          905          910
5117 Asp Leu Thr Cys Val Asn Glu Pro Ile Phe Lys Asn Ser Thr Met Val
5118          915          920          925
5119 Leu Tyr Gly Asp Thr Gly Asp Lys Gln Ala Thr Gln Val Ser Ile Lys
5120          930          935          940
5121 Lys Asp Leu Val Tyr Val Leu Ala Glu Glu Asn Lys Asn Ser Val Lys
5122 945          950          955          960
5123 Gln His Ile Lys Met Thr Leu Gly Gln Asp Leu Lys Ser Asp Ile Ser
5124          965          970          975
5125 Leu Asn Ile Asp Lys Ile Pro Glu Lys Asn Asn Asp Tyr Met Asn Lys
5126          980          985          990
5127 Trp Ala Gly Leu Leu Gly Pro Ile Ser Asn His Ser Phe Gly Gly Ser
5128          995          1000          1005
5129 Phe Arg Thr Ala Ser Asn Lys Glu Ile Lys Leu Ser Glu His Asn Ile
5130          1010          1015          1020
5131 Lys Lys Ser Lys Met Phe Phe Lys Asp Ile Glu Glu Gln Tyr Pro Thr
E--> 5132 1025          1030          1035 (164) / 1040
5133 Ser Leu Ala Cys Val Glu Ile Val Asn Thr Leu Ala Leu Asp Asn Gln
5134          1045          1050          1055
5135 Lys Lys Leu Ser Lys Pro Gln Ser Ile Asn Thr Val Ser Ala His Leu
5136          1060          1065          1070
5137 Gln Ser Ser Val Val Val Ser Asp Cys Lys Asn Ser His Ile Thr Pro
5138          1075          1080          1085
5139 Gln Met Leu Phe Ser Lys Gln Asp Phe Asn Ser Asn His Asn Leu Thr
5140          1090          1095          1100
5141 Pro Ser Gln Lys Ala Glu Ile Thr Glu Leu Ser Thr Ile Leu Glu Glu
E--> 5142 1105          1110          1115 (112) // 120
5143 Ser Gly Ser Gln Phe Glu Phe Thr Gln Phe Arg Lys Pro Ser Tyr Ile
5144          1125          1130          1135
5145 Leu Gln Lys Ser Thr Phe Glu Val Pro Glu Asn Gln Met Thr Ile Leu
5146          1140          1145          1150

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RAW SEQUENCE LISTING
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Input Set : A:\GL50581u.txt
 Output Set : N:\CRF3\06252001\I084471B.raw

5147 Lys Thr Thr Ser Glu Glu Cys Arg Asp Ala Asp Leu His Val Ile Met
 5148 1155 1160 1165
 5149 Asn Ala Pro Ser Ile Gly Gln Val Asp Ser Ser Lys Gln Phe Glu Gly
 5150 1170 1175 1180
 5151 Thr Val Glu Ile Lys Arg Lys Phe Ala Gly Leu Leu Lys Asn Asp Cys
 E--> 5152 1185 1190 1195 120
 5153 Asn Lys Ser Ala Ser Gly Tyr Leu Thr Asp Glu Asn Glu Val Gly Phe
 5154 1205 1210 1215
 5155 Arg Gly Phe Tyr Ser Ala His Gly Thr Lys Leu Asn Val Ser Thr Glu
 5156 1220 1225 1230
 5157 Ala Leu Gln Lys Ala Val Lys Leu Phe Ser Asp Ile Glu Asn Ile Ser
 5158 1235 1240 1245
 5159 Glu Glu Thr Ser Ala Glu Val His Pro Ile Ser Leu Ser Ser Ser Lys
 5160 1250 1255 1260
 5161 Cys His Asp Ser Val Val Ser Met Phe Lys Ile Glu Asn His Asn Asp
 E--> 5162 1265 1270 1275 128
 5163 Lys Thr Val Ser Glu Lys Asn Asn Lys Cys Gln Leu Ile Leu Gln Asn
 5164 1285 1290 1295
 5165 Asn Ile Glu Met Thr Thr Gly Thr Phe Val Glu Glu Ile Thr Glu Asn
 5166 1300 1305 1310
 5167 Tyr Lys Arg Asn Thr Glu Asn Glu Asp Asn Lys Tyr Thr Ala Ala Ser
 5168 1315 1320 1325
 5169 Arg Asn Ser His Asn Leu Glu Phe Asp Gly Ser Asp Ser Ser Lys Asn
 5170 1330 1335 1340
 5171 Asp Thr Val Cys Ile His Lys Asp Glu Thr Asp Leu Leu Phe Thr Asp
 E--> 5172 1345 1350 1355 136
 5173 Gln His Asn Ile Cys Leu Lys Leu Ser Gly Gln Phe Met Lys Glu Gly
 5174 1365 1370 1375
 5175 Asn Thr Gln Ile Lys Glu Asp Leu Ser Asp Leu Thr Phe Leu Glu Val
 5176 1380 1385 1390
 5177 Ala Lys Ala Gln Glu Ala Cys His Gly Asn Thr Ser Asn Lys Glu Gln
 5178 1395 1400 1405
 5179 Leu Thr Ala Thr Lys Thr Glu Gln Asn Ile Lys Asp Phe Glu Thr Ser
 5180 1410 1415 1420
 5181 Asp Thr Phe Phe Gln Thr Ala Ser Gly Lys Asn Ile Ser Val Ala Lys
 E--> 5182 1425 1430 1435 144
 5183 Glu Ser Phe Asn Lys Ile Val Asn Phe Phe Asp Gln Lys Pro Glu Glu
 5184 1445 1450 1455
 5185 Leu His Asn Phe Ser Leu Asn Ser Glu Leu His Ser Asp Ile Arg Lys
 5186 1460 1465 1470
 5187 Asn Lys Met Asp Ile Leu Ser Tyr Glu Glu Thr Asp Ile Val Lys His
 5188 1475 1480 1485
 5189 Lys Ile Leu Lys Glu Ser Val Pro Val Gly Thr Gly Asn Gln Leu Val
 5190 1490 1495 1500
 5191 Thr Phe Gln Gly Gln Pro Glu Arg Asp Glu Lys Ile Lys Glu Pro Thr
 E--> 5192 1505 1510 1515 152
 5193 Leu Leu Gly Phe His Thr Ala Ser Gly Lys Lys Val Lys Ile Ala Lys
 5194 1525 1530 1535
 5195 Glu Ser Leu Asp Lys Val Lys Asn Leu Phe Asp Glu Lys Glu Gln Gly

same

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/084,471B

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 TIME: 11:40:55

Input Set : A:\G150581u.txt
 Output Set: N:\CRF3\06252001\I084471B.raw

5196 1540 1545 1550
 5197 Thr Ser Glu Ile Thr Ser Phe Ser His Gln Trp Ala Lys Thr Leu Lys
 5198 1555 1560 1565
 5199 Tyr Arg Glu Ala Cys Lys Asp Leu Glu Leu Ala Cys Glu Thr Ile Glu
 5200 1570 1575 1580
 5201 Ile Thr Ala Ala Pro Lys Cys Lys Glu Met Gln Asn Ser Leu Asn Asn
 E--> 5202 1585 1590 1595 160
 5203 Asp Lys Asn Leu Val Ser Ile Glu Thr Val Val Pro Pro Lys Leu Leu
 5204 1605 1610 1615
 5205 Ser Asp Asn Leu Cys Arg Gln Thr Glu Asn Leu Lys Thr Ser Lys Ser
 5206 1620 1625 1630
 5207 Ile Phe Leu Lys Val Lys Val His Glu Asn Val Glu Lys Glu Thr Ala
 5208 1635 1640 1645
 5209 Lys Ser Pro Ala Thr Cys Tyr Thr Asn Gln Ser Pro Tyr Ser Val Ile
 5210 1650 1655 1660
 5211 Glu Asn Ser Ala Leu Ala Phe Tyr Thr Ser Cys Ser Arg Lys Thr Ser
 E--> 5212 1665 1670 1675 168
 5213 Val Ser Gln Thr Ser Leu Leu Glu Ala Lys Lys Trp Leu Arg Glu Gly
 5214 1685 1690 1695
 5215 Ile Phe Asp Gly Gln Pro Glu Arg Ile Asn Thr Ala Asp Tyr Val Gly
 5216 1700 1705 1710
 5217 Asn Tyr Leu Tyr Glu Asn Asn Ser Asn Ser Thr Ile Ala Glu Asn Asp
 5218 1715 1720 1725
 5219 Lys Asn His Leu Ser Glu Lys Gln Asp Thr Tyr Leu Ser Asn Ser Ser
 5220 1730 1735 1740
 5221 Met Ser Asn Ser Tyr Ser Tyr His Ser Asp Glu Val Tyr Asn Asp Ser
 E--> 5222 1745 1750 1755 176
 5223 Gly Tyr Leu Ser Lys Asn Lys Leu Asp Ser Gly Ile Glu Pro Val Leu
 5224 1765 1770 1775
 5225 Lys Asn Val Glu Asp Gln Lys Asn Thr Ser Phe Ser Lys Val Ile Ser
 5226 1780 1785 1790
 5227 Asn Val Lys Asp Ala Asn Ala Tyr Pro Gln Thr Val Asn Glu Asp Ile
 5228 1795 1800 1805
 5229 Cys Val Glu Glu Leu Val Thr Ser Ser Ser Pro Cys Lys Asn Lys Asn
 5230 1810 1815 1820
 5231 Ala Ala Ile Lys Leu Ser Ile Ser Asn Ser Asn Asn Phe Glu Val Gly
 E--> 5232 1825 1830 1835 184
 5233 Pro Pro Ala Phe Arg Ile Ala Ser Gly Lys Ile Val Cys Val Ser His
 5234 1845 1850 1855
 5235 Glu Thr Ile Lys Lys Val Lys Asp Ile Phe Thr Asp Ser Phe Ser Lys
 5236 1860 1865 1870
 5237 Val Ile Lys Glu Asn Asn Glu Asn Lys Ser Lys Ile Cys Gln Thr Lys
 5238 1875 1880 1885
 5239 Ile Met Ala Gly Cys Tyr Glu Ala Leu Asp Asp Ser Glu Asp Ile Leu
 5240 1890 1895 1900
 5241 His Asn Ser Leu Asp Asn Asp Glu Cys Ser Thr His Ser His Lys Val
 E--> 5242 1905 1910 1915 192
 5243 Phe Ala Asp Ile Gln Ser Glu Glu Ile Leu Gln His Asn Gln Asn Met
 5244 1925 1930 1935

same

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/084,471B

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TIME: 11:40:55

Input Set : A:\G150581u.txt

Output Set: N:\CRF3\06252001\I084471B.raw

5245 Ser Gly Leu Glu Lys Val Ser Lys Ile Ser Pro Cys Asp Val Ser Leu
 5246 1940 1945 1950
 5247 Glu Thr Ser Asp Ile Cys Lys Cys Ser Ile Gly Lys Leu His Lys Ser
 5248 1955 1960 1965
 5249 Val Ser Ser Ala Asn Thr Cys Gly Ile Phe Ser Thr Ala Ser Gly Lys
 5250 1970 1975 1980
 5251 Ser Val Gln Val Ser Asp Ala Ser Leu Gln Asn Ala Arg Gln Val Phe
 E--> 5252 1985 1990 1995 200
 5253 Ser Glu Ile Glu Asp Ser Thr Lys Gln Val Phe Ser Lys Val Leu Phe
 5254 2005 2010 2015
 5255 Lys Ser Asn Glu His Ser Asp Gln Leu Thr Arg Glu Glu Asn Thr Ala
 5256 2020 2025 2030
 5257 Ile Arg Thr Pro Glu His Leu Ile Ser Gln Lys Gly Phe Ser Tyr Asn
 5258 2035 2040 2045
 5259 Val Val Asn Ser Ser Ala Phe Ser Gly Phe Ser Thr Ala Ser Gly Lys
 5260 2050 2055 2060
 5261 Gln Val Ser Ile Leu Glu Ser Ser Leu His Lys Val Lys Gly Val Leu
 E--> 5262 2065 2070 2075 208
 5263 Glu Glu Phe Asp Leu Ile Arg Thr Glu His Ser Leu His Tyr Ser Pro
 5264 2085 2090 2095
 5265 Thr Ser Arg Gln Asn Val Ser Lys Ile Leu Pro Arg Val Asp Lys Arg
 5266 2100 2105 2110
 5267 Asn Pro Glu His Cys Val Asn Ser Glu Met Glu Lys Thr Cys Ser Lys
 5268 2115 2120 2125
 5269 Glu Phe Lys Leu Ser Asn Asn Leu Asn Val Glu Gly Gly Ser Ser Glu
 5270 2130 2135 2140
 5271 Asn Asn His Ser Ile Lys Val Ser Pro Tyr Leu Ser Gln Phe Gln Gln
 E--> 5272 2145 2150 2155 216
 5273 Asp Lys Gln Gln Leu Val Leu Gly Thr Lys Val Ser Leu Val Glu Asn
 5274 2165 2170 2175
 5275 Ile His Val Leu Gly Lys Glu Gln Ala Ser Pro Lys Asn Val Lys Met
 5276 2180 2185 2190
 5277 Glu Ile Gly Lys Thr Glu Thr Phe Ser Asp Val Pro Val Lys Thr Asn
 5278 2195 2200 2205
 5279 Ile Glu Val Cys Ser Thr Tyr Ser Lys Asp Ser Glu Asn Tyr Phe Glu
 5280 2210 2215 2220
 5281 Thr Glu Ala Val Glu Ile Ala Lys Ala Phe Met Glu Asp Asp Glu Leu
 E--> 5282 2225 2230 2235 224
 5283 Thr Asp Ser Lys Leu Pro Ser His Ala Thr His Ser Leu Phe Thr Cys
 5284 2245 2250 2255
 5285 Pro Glu Asn Glu Glu Met Val Leu Ser Asn Ser Arg Ile Gly Lys Arg
 5286 2260 2265 2270
 5287 Arg Gly Glu Pro Leu Ile Leu Val Gly Glu Pro Ser Ile Lys Arg Asn
 5288 2275 2280 2285
 5289 Leu Leu Asn Glu Phe Asp Arg Ile Ile Glu Asn Gln Glu Lys Ser Leu
 5290 2290 2295 2300
 5291 Lys Ala Ser Lys Ser Thr Pro Asp Gly Thr Ile Lys Asp Arg Arg Leu
 E--> 5292 2305 2310 2315 232
 5293 Phe Met His His Val Ser Leu Glu Pro Ile Thr Cys Val Pro Phe Arg

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same

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001

TIME: 11:40:55

Input Set : A:\G150581u.txt

Output Set : N:\CRF3\06252001\I084471B.raw

5343 Leu Thr Asp Gly Trp Tyr Ala Val Lys Ala Gln Leu Asp Pro Leu
 5344 2725 2730 2735
 5345 Leu Ala Val Leu Lys Asn Gly Arg Leu Thr Val Gly Gln Lys Ile Ile
 5346 2740 2745 2750
 5347 Leu His Gly Ala Glu Leu Val Gly Ser Pro Asp Ala Cys Thr Pro Leu
 5348 2755 2760 2765
 5349 Glu Ala Pro Glu Ser Leu Met Leu Lys Ile Ser Ala Asn Ser Thr Arg
 5350 2770 2775 2780
 5351 Pro Ala Arg Trp Tyr Thr Lys Leu Gly Phe Phe Pro Asp Pro Arg Pro
 E--> 5352 2785 2790 2795 280
 5353 Phe Pro Leu Pro Leu Ser Ser Leu Phe Ser Asp Gly Gly Asn Val Gly
 5354 2805 2810 2815
 5355 Cys Val Asp Val Ile Ile Gln Arg Ala Tyr Pro Ile Gln Trp Met Glu
 5356 2820 2825 2830
 5357 Lys Thr Ser Ser Gly Leu Tyr Ile Phe Arg Asn Glu Arg Glu Glu Glu
 5358 2835 2840 2845
 5359 Lys Glu Ala Ala Lys Tyr Val Glu Ala Gln Gln Lys Arg Leu Glu Ala
 5360 2850 2855 2860
 5361 Leu Phe Thr Lys Lys Ile Gln Glu Glu Phe Glu Glu His Glu Glu Asn Thr
 E--> 5362 2865 2870 2875 288
 5363 Thr Lys Pro Tyr Leu Pro Ser Arg Ala Leu Thr Arg Gln Gln Val Arg
 5364 2885 2890 2895
 5365 Ala Leu Gln Asp Gly Ala Glu Leu Tyr Glu Ala Val Lys Asn Ala Ala
 5366 2900 2905 2910
 5367 Asp Pro Ala Tyr Leu Glu Gly Tyr Phe Ser Glu Glu Gln Leu Arg Ala
 5368 2915 2920 2925
 5369 Leu Asn Asn His Arg Gln Met Leu Asn Asp Lys Lys Gln Ala Gln Ile
 5370 2930 2935 2940
 5371 Gln Leu Glu Ile Arg Lys Ala Met Glu Ser Ala Glu Gln Lys Glu Gln
 E--> 5372 2945 2950 2955 296
 5373 Gly Leu Ser Ser Arg Asp Val Thr Thr Val Trp Lys Leu Arg Ile Val Ser
 5374 2965 2970 2975
 5375 Tyr Ser Lys Lys Glu Lys Asp Ser Val Ile Leu Ser Ile Trp Arg Pro
 5376 2980 2985 2990
 5377 Ser Ser Asp Leu Tyr Ser Leu Leu Thr Glu Gly Lys Arg Tyr Arg Ile
 5378 2995 3000 3005
 5379 Tyr His Leu Ala Thr Ser Lys Ser Lys Ser Lys Ser Glu Arg Ala Asn
 5380 3010 3015 3020
 5381 Ile Gln Leu Ala Ala Thr Lys Lys Thr Gln Tyr Gln Gln Leu Pro Val
 E--> 5382 3025 3030 3035 304
 5383 Ser Asp Glu Ile Leu Phe Gln Ile Tyr Gln Pro Arg Glu Pro Leu His
 5384 3045 3050 3055
 5385 Phe Ser Lys Phe Leu Asp Pro Asp Phe Gln Pro Ser Cys Ser Glu Val
 5386 3060 3065 3070
 5387 Asp Leu Ile Gly Phe Val Val Ser Val Val Lys Lys Thr Gly Leu Ala
 5388 3075 3080 3085
 5389 Pro Phe Val Tyr Leu Ser Asp Glu Cys Tyr Asn Leu Leu Ala Ile Lys
 5390 3090 3095 3100
 5391 Phe Trp Ile Asp Leu Asn Glu Asp Ile Ile Lys Pro His Met Leu Ile

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Input Set : A:\G150581u.txt
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E--> 5392 3105 3110 3115 312
5393 Ala Ala Ser Asn Leu Gln Trp Arg Pro Glu Ser Lys Ser Gly Leu Leu
5394 3125 3130 3135
5395 Thr Leu Phe Ala Gly Asp Phe Ser Val Phe Ser Ala Ser Pro Lys Glu
5396 3140 3145 3150
5397 Gly His Phe Gln Glu Thr Phe Asn Lys Met Lys Asn Thr Val Glu Asn
5398 3155 3160 3165
5399 Ile Asp Ile Leu Cys Asn Glu Ala Glu Asn Lys Leu Met His Ile Leu
5400 3170 3175 3180
5401 His Ala Asn Asp Pro Lys Trp Ser Thr Pro Thr Lys Asp Cys Thr Ser
E--> 5402 3185 3190 3195 320
5403 Gly Pro Tyr Thr Ala Gln Ile Ile Pro Gly Thr Gly Asn Lys Leu Leu
5404 3205 3210 3215
5405 Met Ser Ser Pro Asn Cys Glu Ile Tyr Tyr Gln Ser Pro Leu Ser Leu
5406 3220 3225 3230
5407 Cys Met Ala Lys Arg Lys Ser Val Ser Thr Pro Val Ser Ala Gln Met
5408 3235 3240 3245
5409 Thr Ser Lys Ser Cys Lys Gly Glu Lys Glu Ile Asp Asp Gln Lys Asn
5410 3250 3255 3260
5411 Cys Lys Lys Arg Arg Ala Leu Asp Phe Leu Ser Arg Leu Pro Leu Pro
E--> 5412 3265 3270 3275 328
5413 Pro Pro Val Ser Pro Ile Cys Thr Phe Val Ser Pro Ala Ala Gln Lys
5414 3285 3290 3295
5415 Ala Phe Gln Pro Pro Arg Ser Cys Gly Thr Lys Tyr Glu Thr Pro Ile
5416 3300 3305 3310
5417 Lys Lys Lys Glu Leu Asn Ser Pro Gln Met Thr Pro Phe Lys Lys Phe
5418 3315 3320 3325
5419 Asn Glu Ile Ser Leu Leu Glu Ser Asn Ser Ile Ala Asp Glu Glu Leu
5420 3330 3335 3340
5421 Ala Leu Ile Asn Thr Gln Ala Leu Leu Ser Gly Ser Thr Gly Glu Lys
E--> 5422 3345 3350 3355 336
5423 Gln Phe Ile Ser Val Ser Glu Ser Thr Arg Thr Ala Pro Thr Ser Ser
5424 3365 3370 3375
5425 Glu Asp Tyr Leu Arg Leu Lys Arg Arg Cys Thr Thr Ser Leu Ile Lys
5426 3380 3385 3390
5427 Glu Gln Glu Ser Ser Gln Ala Ser Thr Glu Glu Cys Glu Lys Asn Lys
5428 3395 3400 3405
5429 Gln Asp Thr Ile Thr Thr Lys Lys Tyr Ile
5430 3410 3415
6314 (2) INFORMATION FOR SEQ ID NO: 13:
6316 (i) SEQUENCE CHARACTERISTICS:
6317 (A) LENGTH: 3418 amino acids
6318 (B) TYPE: amino acid
6319 (C) STRANDEDNESS: single
6320 (D) TOPOLOGY: linear
6322 (ii) MOLECULE TYPE: protein
6323 (v) FRAGMENT TYPE: internal
6325 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:
6327 Met Pro Ile Gly Ser Lys Glu Arg Pro Thr Phe Phe Glu Ile Phe Lys

same

pr 40-46

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Input Set : A:\GL50581u.txt

Output Set : N:\CRF3\06252001\I084471B.raw

6328	1			5				10				15		
6329	Thr	Arg	Cys	Asn	Lys	Ala	Asp	Leu	Gly	Pro	Ile	Ser	Leu	Asn
6330				20					25				30	
6331	Glu	Glu	Leu	Ser	Ser	Glu	Ala	Pro	Pro	Tyr	Asn	Ser	Glu	Pro
6332			35					40					45	
6333	Glu	Ser	Glu	His	Lys	Asn	Asn	Asn	Tyr	Glu	Pro	Asn	Leu	Phe
6334		50					55					60		Lys
6335	Pro	Gln	Arg	Lys	Pro	Ser	Tyr	Asn	Gln	Leu	Ala	Ser	Thr	Pro
6336	65					70				75				Ile
6337	Phe	Lys	Glu	Gln	Gly	Leu	Thr	Leu	Pro	Leu	Tyr	Gln	Ser	Pro
6338				85						90				95
6339	Glu	Leu	Asp	Lys	Phe	Lys	Leu	Asp	Leu	Gly	Arg	Asn	Val	Pro
6340				100					105				110	Asn
6341	Arg	His	Lys	Ser	Leu	Arg	Thr	Val	Lys	Thr	Lys	Met	Asp	Gln
6342			115					120					125	Ala
6343	Asp	Val	Ser	Cys	Pro	Leu	Leu	Asn	Ser	Cys	Leu	Ser	Glu	Ser
6344		130					135					140		Pro
6345	Val	Leu	Gln	Cys	Thr	His	Val	Thr	Pro	Gln	Arg	Asp	Lys	Ser
6346	145					150					155			160
6347	Cys	Gly	Ser	Leu	Phe	His	Thr	Pro	Lys	Phe	Val	Lys	Gly	Arg
6348				165						170				175
6349	Pro	Lys	His	Ile	Ser	Glu	Ser	Leu	Gly	Ala	Glu	Val	Asp	Pro
6350				180					185					190
6351	Ser	Trp	Ser	Ser	Ser	Leu	Ala	Thr	Pro	Pro	Thr	Leu	Ser	Ser
6352			195					200					205	Thr
6353	Leu	Ile	Val	Arg	Asn	Glu	Glu	Ala	Ser	Glu	Thr	Val	Phe	Pro
6354		210					215					220		His
6355	Thr	Thr	Ala	Asn	Val	Lys	Ser	Tyr	Phe	Ser	Asn	His	Asp	Glu
6356	225				230					235				240
6357	Lys	Lys	Asn	Asp	Arg	Phe	Ile	Ala	Ser	Val	Thr	Asp	Ser	Glu
6358				245						250				255
6359	Asn	Gln	Arg	Glu	Ala	Ala	Ser	His	Gly	Phe	Gly	Lys	Thr	Ser
6360			260					265					270	Gly
6361	Ser	Phe	Lys	Val	Asn	Ser	Cys	Lys	Asp	His	Ile	Gly	Lys	Ser
6362			275					280					285	Met
6363	His	Val	Leu	Glu	Asp	Glu	Val	Tyr	Glu	Thr	Val	Val	Asp	Thr
6364		290					295					300		Ser
6365	Glu	Asp	Ser	Phe	Ser	Leu	Cys	Phe	Ser	Lys	Cys	Arg	Thr	Lys
6366		305				310					315			Asn
6367	Gln	Lys	Val	Arg	Thr	Ser	Lys	Thr	Arg	Lys	Lys	Ile	Phe	His
6368				325						330				Glu
6369	Asn	Ala	Asp	Glu	Cys	Glu	Lys	Ser	Lys	Asn	Gln	Val	Lys	Glu
6370			340						345				350	Lys
6371	Ser	Phe	Val	Ser	Glu	Val	Glu	Pro	Asn	Asp	Thr	Asp	Pro	Leu
6372			355					360					365	Asp
6373	Asn	Val	Ala	His	Gln	Lys	Pro	Phe	Glu	Ser	Gly	Ser	Asp	Lys
6374		370					375					380		Ile
6375	Lys	Glu	Val	Val	Pro	Ser	Leu	Ala	Cys	Glu	Trp	Ser	Gln	Leu
6376		385				390					395			400

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Input Set : A:\G150581u.txt

Output Set : N:\CRF3\06252001\I084471B.raw

```

6377 Ser Gly Leu Asn Gly Ala Gln Met Glu Lys Ile Pro Leu Leu His Ile
6378                               405                               415
6379 Ser Ser Cys Asp Gln Asn Ile Ser Glu Lys Asp Leu Leu Asp Thr Glu
6380                               420                               430
6381 Asn Lys Arg Lys Lys Asp Phe Leu Thr Ser Glu Asn Ser Leu Pro Arg
6382                               435                               445
6383 Ile Ser Ser Leu Pro Lys Ser Glu Lys Pro Leu Asn Glu Glu Thr Val
6384                               450                               460
6385 Val Asn Lys Arg Asp Glu Glu Gln His Leu Glu Ser His Thr Asp Cys
6386                               470                               480
6387 Ile Leu Ala Val Lys Gln Ala Ile Ser Gly Thr Ser Pro Val Ala Ser
6388                               485                               495
6389 Ser Phe Gln Gly Ile Lys Lys Ser Ile Phe Arg Ile Arg Glu Ser Pro
6390                               500                               510
6391 Lys Glu Thr Phe Asn Ala Ser Phe Ser Gly His Met Thr Asp Pro Asn
6392                               515                               525
6393 Phe Lys Lys Glu Thr Glu Ala Ser Glu Ser Gly Leu Glu Ile His Thr
6394                               530                               540
6395 Val Cys Ser Gln Lys Glu Asp Ser Leu Cys Pro Asn Leu Ile Asp Asn
6396                               545                               555
6397 Gly Ser Trp Pro Ala Thr Thr Thr Gln Asn Ser Val Ala Leu Lys Asn
6398                               565                               575
6399 Ala Gly Leu Ile Ser Thr Leu Lys Lys Lys Thr Asn Lys Phe Ile Tyr
6400                               580                               590
6401 Ala Ile His Asp Glu Thr Ser Tyr Lys Gly Lys Lys Ile Pro Lys Asp
6402                               595                               605
6403 Gln Lys Ser Glu Leu Ile Asn Cys Ser Ala Gln Phe Glu Ala Asn Ala
6404                               610                               620
6405 Phe Glu Ala Pro Leu Thr Phe Ala Asn Ala Asp Ser Gly Leu Leu His
6406                               630                               640
6407 Ser Ser Val Lys Arg Ser Cys Ser Gln Asn Asp Ser Glu Glu Pro Thr
6408                               645                               655
6409 Leu Ser Leu Thr Ser Ser Phe Gly Thr Ile Leu Arg Lys Cys Ser Arg
6410                               660                               670
6411 Asn Glu Thr Cys Ser Asn Asn Thr Val Ile Ser Gln Asp Leu Asp Tyr
6412                               675                               685
6413 Lys Glu Ala Lys Cys Asn Lys Glu Lys Leu Gln Leu Phe Ile Thr Pro
6414                               690                               700
6415 Glu Ala Asp Ser Leu Ser Cys Leu Gln Glu Gly Gln Cys Glu Asn Asp
6416                               710                               720
6417 Pro Lys Ser Lys Lys Val Ser Asp Ile Lys Glu Glu Val Leu Ala Ala
6418                               725                               735
6419 Ala Cys His Pro Val Gln His Ser Lys Val Glu Tyr Ser Asp Thr Asp
6420                               740                               750
6421 Phe Gln Ser Gln Lys Ser Leu Leu Tyr Asp His Glu Asn Ala Ser Thr
6422                               755                               765
6423 Leu Ile Leu Thr Pro Thr Ser Lys Asp Val Leu Ser Asn Leu Val Met
6424                               770                               780
6425 Ile Ser Arg Gly Lys Glu Ser Tyr Lys Met Ser Asp Lys Leu Lys Gly

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Input Set : A:\G150581u.txt

Output Set : N:\CRF3\06252001\I084471B.raw

6426 785 790 795 800
 6427 Asn Asn Tyr Glu Ser Asp Val Glu Leu Thr Lys Asn Ile Pro Met Glu
 6428 805 810 815
 6429 Lys Asn Gln Asp Val Cys Ala Leu Asn Glu Asn Tyr Lys Asn Val Glu
 6430 820 825 830
 6431 Leu Leu Pro Pro Glu Lys Tyr Met Arg Val Ala Ser Pro Ser Arg Lys
 6432 835 840 845
 6433 Val Gln Phe Asn Gln Asn Thr Asn Leu Arg Val Ile Gln Lys Asn Gln
 6434 850 855 860
 6435 Glu Glu Thr Thr Ser Ile Ser Lys Ile Thr Val Asn Pro Asp Ser Glu
 6436 865 870 875 880
 6437 Glu Leu Phe Ser Asp Asn Glu Asn Asn Phe Val Phe Gln Ile Ala Asn
 6438 885 890 895
 6439 Glu Arg Asn Asn Leu Ala Leu Gly Asn Thr Lys Glu Leu His Glu Thr
 6440 900 905 910
 6441 Asp Leu Thr Cys Val Asn Glu Pro Ile Phe Lys Asn Ser Thr Met Val
 6442 915 920 925
 6443 Leu Tyr Gly Asp Thr Gly Asp Lys Gln Ala Thr Gln Val Ser Ile Lys
 6444 930 935 940
 6445 Lys Asp Leu Val Tyr Val Leu Ala Glu Glu Asn Lys Asn Ser Val Lys
 6446 945 950 955 960
 6447 Gln His Ile Lys Met Thr Leu Gly Gln Asp Leu Lys Ser Asp Ile Ser
 6448 965 970 975
 6449 Leu Asn Ile Asp Lys Ile Pro Glu Lys Asn Asn Asp Tyr Met Asp Lys
 6450 980 985 990
 6451 Trp Ala Gly Leu Leu Gly Pro Ile Ser Asn His Ser Phe Gly Gly Ser
 6452 995 1000 1005
 6453 Phe Arg Thr Ala Ser Asn Lys Glu Ile Lys Leu Ser Glu His Asn Ile
 6454 1010 1015 1020
 6455 Lys Lys Ser Lys Met Phe Phe Lys Asp Ile Glu Glu Gln Tyr Pro Thr
 E--> 6456 1025 1030 1035 1040
 6457 Ser Leu Ala Cys Val Glu Ile Val Asn Thr Leu Ala Leu Asp Asn Gln
 6458 1045 1050 1055
 6459 Lys Lys Leu Ser Lys Pro Gln Ser Ile Asn Thr Val Ser Ala His Leu
 6460 1060 1065 1070
 6461 Gln Ser Ser Val Val Val Ser Asp Cys Lys Asn Ser His Ile Thr Pro
 6462 1075 1080 1085
 6463 Gln Met Leu Phe Ser Lys Gln Asp Phe Asn Ser Asn His Asn Leu Thr
 6464 1090 1095 1100
 6465 Pro Ser Gln Lys Ala Glu Ile Thr Glu Leu Ser Thr Ile Leu Glu Glu
 E--> 6466 1105 1110 1115 1120
 6467 Ser Gly Ser Gln Phe Glu Phe Thr Gln Phe Arg Lys Pro Ser Tyr Ile
 6468 1125 1130 1135
 6469 Leu Gln Lys Ser Thr Phe Glu Val Pro Glu Asn Gln Met Thr Ile Leu
 6470 1140 1145 1150
 6471 Lys Thr Thr Ser Glu Glu Cys Arg Asp Ala Asp Leu His Val Ile Met
 6472 1155 1160 1165
 6473 Asn Ala Pro Ser Ile Gly Gln Val Asp Ser Ser Lys Gln Phe Glu Gly
 6474 1170 1175 1180

same

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Input Set : A:\G150581u.txt
 Output Set : N:\CRF3\06252001\I084471B.raw

E--> 6475 Thr Val Glu Ile Lys Arg Lys Phe Ala Gly Leu Leu Lys Asn Asp Cys
 6476 1185 1190 1195 120
 6477 Asn Lys Ser Ala Ser Gly Tyr Leu Thr Asp Glu Asn Glu Val Gly Phe
 6478 1205 1210 1215
 6479 Arg Gly Phe Tyr Ser Ala His Gly Thr Lys Leu Asn Val Ser Thr Glu
 6480 1220 1225 1230
 6481 Ala Leu Gln Lys Ala Val Lys Leu Phe Ser Asp Ile Glu Asn Ile Ser
 6482 1235 1240 1245
 6483 Glu Glu Thr Ser Ala Glu Val His Pro Ile Ser Leu Ser Ser Ser Lys
 6484 1250 1255 1260
 6485 Cys His Asp Ser Val Val Ser Met Phe Lys Ile Glu Asn His Asn Asp
 E--> 6486 1265 1270 1275 128
 6487 Lys Thr Val Ser Glu Lys Asn Asn Lys Cys Glu Leu Ile Leu Gln Asn
 6488 1285 1290 1295
 6489 Asn Ile Glu Met Thr Thr Gly Thr Phe Val Glu Glu Ile Thr Glu Asn
 6490 1300 1305 1310
 6491 Tyr Lys Arg Asn Thr Glu Asn Glu Asp Asn Lys Tyr Thr Ala Ala Ser
 6492 1315 1320 1325
 6493 Arg Asn Ser His Asn Leu Glu Phe Asp Gly Ser Asp Ser Ser Lys Asn
 6494 1330 1335 1340
 6495 Asp Thr Val Cys Ile His Lys Asp Glu Thr Asp Leu Leu Phe Thr Asp
 E--> 6496 1345 1350 1355 136
 6497 Gln His Asn Ile Cys Leu Lys Leu Ser Gly Gln Phe Met Lys Glu Gly
 6498 1365 1370 1375
 6499 Asn Thr Gln Ile Lys Glu Asp Leu Ser Asp Leu Thr Phe Leu Glu Val
 6500 1380 1385 1390
 6501 Ala Lys Ala Gln Glu Ala Cys His Gly Asn Thr Ser Asn Lys Glu Gln
 6502 1395 1400 1405
 6503 Leu Thr Ala Thr Lys Thr Glu Gln Asn Ile Lys Asp Phe Glu Thr Ser
 6504 1410 1415 1420
 6505 Asp Thr Phe Phe Gln Thr Ala Ser Gly Lys Asn Ile Ser Val Ala Lys
 E--> 6506 1425 1430 1435 144
 6507 Glu Ser Phe Asn Lys Ile Val Asn Phe Phe Asp Gln Lys Pro Glu Glu
 6508 1445 1450 1455
 6509 Leu His Asn Phe Ser Leu Asn Ser Glu Leu His Ser Asp Ile Arg Lys
 6510 1460 1465 1470
 6511 Asn Lys Met Asp Ile Leu Ser Tyr Glu Glu Thr Asp Ile Val Lys His
 6512 1475 1480 1485
 6513 Lys Ile Leu Lys Glu Ser Val Pro Val Gly Thr Gly Asn Gln Leu Val
 6514 1490 1495 1500
 6515 Thr Phe Gln Gly Gln Pro Glu Arg Asp Glu Lys Ile Lys Glu Pro Thr
 E--> 6516 1505 1510 1515 152
 6517 Leu Leu Gly Phe His Thr Ala Ser Gly Lys Val Lys Ile Ala Lys
 6518 1525 1530 1535
 6519 Glu Ser Leu Asp Lys Val Lys Asn Leu Phe Asp Glu Lys Glu Gln Gly
 6520 1540 1545 1550
 6521 Thr Ser Glu Ile Thr Ser Phe Ser His Gln Trp Ala Lys Thr Leu Lys
 6522 1555 1560 1565
 6523 Tyr Arg Glu Ala Cys Lys Asp Leu Glu Leu Ala Cys Glu Thr Ile Glu

Done

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Input Set : A:\GL50581u.txt

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6524 1570 1575 1580
 6525 Ile Thr Ala Ala Pro Lys Cys Lys Glu Met Gln Asn Ser Leu Asn Asn
 E--> 6526 1585 1590 1595 160
 6527 Asp Lys Asn Leu Val Ser Ile Glu Thr Val Val Pro Pro Lys Leu Leu
 6528 1605 1610 1615
 6529 Ser Asp Asn Leu Cys Arg Gln Thr Glu Asn Leu Lys Thr Ser Lys Ser
 6530 1620 1625 1630
 6531 Ile Phe Leu Lys Val Lys Val His Glu Asn Val Glu Lys Glu Thr Ala
 6532 1635 1640 1645
 6533 Lys Ser Pro Ala Thr Cys Tyr Thr Asn Gln Ser Pro Tyr Ser Val Ile
 6534 1650 1655 1660
 6535 Glu Asn Ser Ala Leu Ala Phe Tyr Thr Ser Cys Ser Arg Lys Thr Ser
 E--> 6536 1665 1670 1675 168
 6537 Val Ser Gln Thr Ser Leu Leu Glu Ala Lys Lys Trp Leu Arg Glu Gly
 6538 1685 1690 1695
 6539 Ile Phe Asp Gly Gln Pro Glu Arg Ile Asn Thr Ala Asp Tyr Val Gly
 6540 1700 1705 1710
 6541 Asn Tyr Leu Tyr Glu Asn Asn Ser Asn Ser Thr Ile Ala Glu Asn Asp
 6542 1715 1720 1725
 6543 Lys Asn His Leu Ser Glu Lys Gln Asp Thr Tyr Leu Ser Asn Ser Ser
 6544 1730 1735 1740
 6545 Met Ser Asn Ser Tyr Ser Tyr His Ser Asp Glu Val Tyr Asn Asp Ser
 E--> 6546 1745 1750 1755 176
 6547 Gly Tyr Leu Ser Lys Asn Lys Leu Asp Ser Gly Ile Glu Pro Val Leu
 6548 1765 1770 1775
 6549 Lys Asn Val Glu Asp Gln Lys Asn Thr Ser Phe Ser Lys Val Ile Ser
 6550 1780 1785 1790
 6551 Asn Val Lys Asp Ala Asn Ala Tyr Pro Gln Thr Val Asn Glu Asp Ile
 6552 1795 1800 1805
 6553 Cys Val Glu Glu Leu Val Thr Ser Ser Ser Pro Cys Lys Asn Lys Asn
 6554 1810 1815 1820
 6555 Ala Ala Ile Lys Leu Ser Ile Ser Asn Ser Asn Asn Phe Glu Val Gly
 E--> 6556 1825 1830 1835 184
 6557 Pro Pro Ala Phe Arg Ile Ala Ser Gly Lys Ile Val Cys Val Ser His
 6558 1845 1850 1855
 6559 Glu Thr Ile Lys Lys Val Lys Asp Ile Phe Thr Asp Ser Phe Ser Lys
 6560 1860 1865 1870
 6561 Val Ile Lys Glu Asn Asn Glu Asn Lys Ser Lys Ile Cys Gln Thr Lys
 6562 1875 1880 1885
 6563 Ile Met Ala Gly Cys Tyr Glu Ala Leu Asp Asp Ser Glu Asp Ile Leu
 6564 1890 1895 1900
 6565 His Asn Ser Leu Asp Asn Asp Glu Cys Ser Thr His Ser His Lys Val
 E--> 6566 1905 1910 1915 192
 6567 Phe Ala Asp Ile Gln Ser Glu Glu Ile Leu Gln His Asn Gln Asn Met
 6568 1925 1930 1935
 6569 Ser Gly Leu Glu Lys Val Ser Lys Ile Ser Pro Cys Asp Val Ser Leu
 6570 1940 1945 1950
 6571 Glu Thr Ser Asp Ile Cys Lys Cys Ser Ile Gly Lys Leu His Lys Ser
 6572 1955 1960 1965

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Input Set : A:\G150581u.txt

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6573 Val Ser Ser Ala Asn Thr Cys Gly Ile Phe Ser Thr Ala Ser Gly Lys
 6574 1970 1975 1980
 6575 Ser Val Gln Val Ser Asp Ala Ser Leu Gln Asn Ala Arg Gln Val Phe
 E--> 6576 1985 1990 1995 200
 6577 Ser Glu Ile Glu Asp Ser Thr Lys Gln Val Phe Ser Lys Val Leu Phe
 6578 2005 2010 2015
 6579 Lys Ser Asn Glu His Ser Asp Gln Leu Thr Arg Glu Glu Asn Thr Ala
 6580 2020 2025 2030
 6581 Ile Arg Thr Pro Glu His Leu Ile Ser Gln Lys Gly Phe Ser Tyr Asn
 6582 2035 2040 2045
 6583 Val Val Asn Ser Ser Ala Phe Ser Gly Phe Ser Thr Ala Ser Gly Lys
 6584 2050 2055 2060
 6585 Gln Val Ser Ile Leu Glu Ser Ser Leu His Lys Val Lys Gly Val Leu
 E--> 6586 2065 2070 2075 208
 6587 Glu Glu Phe Asp Leu Ile Arg Thr Glu His Ser Leu His Tyr Ser Pro
 6588 2085 2090 2095
 6589 Thr Ser Arg Gln Asn Val Ser Lys Ile Leu Pro Arg Val Asp Lys Arg
 6590 2100 2105 2110
 6591 Asn Pro Glu His Cys Val Asn Ser Glu Met Glu Lys Thr Cys Ser Lys
 6592 2115 2120 2125
 6593 Glu Phe Lys Leu Ser Asn Asn Leu Asn Val Glu Gly Gly Ser Ser Glu
 6594 2130 2135 2140
 6595 Asn Asn His Ser Ile Lys Val Ser Pro Tyr Leu Ser Gln Phe Gln Gln
 E--> 6596 2145 2150 2155 216
 6597 Asp Lys Gln Gln Leu Val Leu Gly Thr Lys Val Ser Leu Val Glu Asn
 6598 2165 2170 2175
 6599 Ile His Val Leu Gly Lys Glu Gln Ala Ser Pro Lys Asn Val Lys Met
 6600 2180 2185 2190
 6601 Glu Ile Gly Lys Thr Glu Thr Phe Ser Asp Val Pro Val Lys Thr Asn
 6602 2195 2200 2205
 6603 Ile Glu Val Cys Ser Thr Tyr Ser Lys Asp Ser Glu Asn Tyr Phe Glu
 6604 2210 2215 2220
 6605 Thr Glu Ala Val Glu Ile Ala Lys Ala Phe Met Glu Asp Asp Glu Leu
 E--> 6606 2225 2230 2235 224
 6607 Thr Asp Ser Lys Leu Pro Ser His Ala Thr His Ser Leu Phe Thr Cys
 6608 2245 2250 2255
 6609 Pro Glu Asn Glu Glu Met Val Leu Ser Asn Ser Arg Ile Gly Lys Arg
 6610 2260 2265 2270
 6611 Arg Gly Glu Pro Leu Ile Leu Val Gly Glu Pro Ser Ile Lys Arg Asn
 6612 2275 2280 2285
 6613 Leu Leu Asn Glu Phe Asp Arg Ile Ile Glu Asn Gln Glu Lys Ser Leu
 6614 2290 2295 2300
 6615 Lys Ala Ser Lys Ser Thr Pro Asp Gly Thr Ile Lys Asp Arg Arg Leu
 E--> 6616 2305 2310 2315 232
 6617 Phe Met His His Val Ser Leu Glu Pro Ile Thr Cys Val Pro Phe Arg
 6618 2325 2330 2335
 6619 Thr Thr Lys Glu Arg Gln Glu Ile Gln Asn Pro Asn Phe Thr Ala Pro
 6620 2340 2345 2350
 6621 Gly Gln Glu Phe Leu Ser Lys Ser His Leu Tyr Glu His Leu Thr Leu

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Input Set : A:\G150581u.txt

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6622          2355          2360          2365
6623  Glu Lys Ser Ser Ser Asn Leu Ala Val Ser Gly His Pro Phe Tyr Gln
6624          2370          2375          2380
6625  Val Ser Ala Thr Arg Asn Glu Lys Met Arg His Leu Ile Thr Thr Gly
E--> 6626  2385          2390          2395          240
6627  Arg Pro Thr Lys Val Phe Val Pro Pro Phe Lys Thr Lys Ser His Phe
6628          2405          2410          2415
6629  His Arg Val Glu Gln Cys Val Arg Asn Ile Asn Leu Glu Glu Asn Arg
6630          2420          2425          2430
6631  Gln Lys Gln Asn Ile Asp Gly His Gly Ser Asp Asp Ser Lys Asn Lys
6632          2435          2440          2445
6633  Ile Asn Asp Asn Glu Ile His Gln Phe Asn Lys Asn Asn Ser Asn Gln
6634          2450          2455          2460
6635  Ala Ala Ala Val Thr Phe Thr Lys Cys Glu Glu Glu Pro Leu Asp Leu
E--> 6636  2465          2470          2475          248
6637  Ile Thr Ser Leu Gln Asn Ala Arg Asp Ile Gln Asp Met Arg Ile Lys
6638          2485          2490          2495
6639  Lys Lys Gln Arg Gln Arg Val Phe Pro Gln Pro Gly Ser Leu Tyr Leu
6640          2500          2505          2510
6641  Ala Lys Thr Ser Thr Leu Pro Arg Ile Ser Leu Lys Ala Ala Val Gly
6642          2515          2520          2525
6643  Gly Gln Val Pro Ser Ala Cys Ser His Lys Gln Leu Tyr Thr Tyr Gly
6644          2530          2535          2540
6645  Val Ser Lys His Cys Ile Lys Ile Asn Ser Lys Asn Ala Glu Ser Phe
E--> 6646  2545          2550          2555          256
6647  Gln Phe His Thr Glu Asp Tyr Phe Gly Lys Glu Ser Leu Trp Thr Gly
6648          2565          2570          2575
6649  Lys Gly Ile Gln Leu Ala Asp Gly Gly Trp Leu Ile Pro Ser Asn Asp
6650          2580          2585          2590
6651  Gly Lys Ala Gly Lys Glu Glu Phe Tyr Arg Ala Leu Cys Asp Thr Pro
6652          2595          2600          2605
6653  Gly Val Asp Pro Lys Leu Ile Ser Arg Ile Trp Val Tyr Asn His Tyr
6654          2610          2615          2620
6655  Arg Trp Ile Ile Trp Lys Leu Ala Ala Met Glu Cys Ala Phe Pro Lys
E--> 6656  2625          2630          2635          264
6657  Glu Phe Ala Asn Arg Cys Leu Ser Pro Glu Arg Val Leu Leu Gln Leu
6658          2645          2650          2655
6659  Lys Tyr Arg Tyr Asp Thr Glu Ile Asp Arg Ser Arg Arg Ser Ala Ile
6660          2660          2665          2670
6661  Lys Lys Ile Met Glu Arg Asp Asp Thr Ala Ala Lys Thr Leu Val Leu
6662          2675          2680          2685
6663  Cys Val Ser Asp Ile Ile Ser Leu Ser Ala Asn Ile Ser Glu Thr Ser
6664          2690          2695          2700
6665  Ser Asn Lys Thr Ser Ser Ala Asp Thr Gln Lys Val Ala Ile Ile Glu
E--> 6666  2705          2710          2715          272
6667  Leu Thr Asp Gly Trp Tyr Ala Val Lys Ala Gln Leu Asp Pro Pro Leu
6668          2725          2730          2735
6669  Leu Ala Val Leu Lys Asn Gly Arg Leu Thr Val Gly Gln Lys Ile Ile
6670          2740          2745          2750

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done

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001

TIME: 11:40:55

Input Set : A:\GL50581u.txt

Output Set : N:\CRF3\06252001\I084471B.raw

6671 Leu His Gly Ala Glu Leu Val Gly Ser Pro Asp Ala Cys Thr Pro Leu
 6672 2755 2760 2765
 6673 Glu Ala Pro Glu Ser Leu Met Leu Lys Ile Ser Ala Asn Ser Thr Arg
 6674 2770 2775 2780
 6675 Pro Ala Arg Trp Tyr Thr Lys Leu Gly Phe Phe Pro Asp Pro Arg Pro
 E--> 6676 2785 2790 2795 280
 6677 Phe Pro Leu Pro Leu Ser Ser Leu Phe Ser Asp Gly Gly Asn Val Gly
 6678 2805 2810 2815
 6679 Cys Val Asp Val Ile Ile Gln Arg Ala Tyr Pro Ile Gln Trp Met Glu
 6680 2820 2825 2830
 6681 Lys Thr Ser Ser Gly Leu Tyr Ile Phe Arg Asn Glu Arg Glu Glu Glu
 6682 2835 2840 2845
 6683 Lys Glu Ala Ala Lys Tyr Val Glu Ala Gln Gln Lys Arg Leu Glu Ala
 6684 2850 2855 2860
 6685 Leu Phe Thr Lys Ile Gln Glu Glu Phe Glu Glu His Glu Glu Asn Thr
 E--> 6686 2865 2870 2875 288
 6687 Thr Lys Pro Tyr Leu Pro Ser Arg Ala Leu Thr Arg Gln Gln Val Arg
 6688 2885 2890 2895
 6689 Ala Leu Gln Asp Gly Ala Glu Leu Tyr Glu Ala Val Lys Asn Ala Ala
 6690 2900 2905 2910
 6691 Asp Pro Ala Tyr Leu Glu Gly Tyr Phe Ser Glu Glu Gln Leu Arg Ala
 6692 2915 2920 2925
 6693 Leu Asn Asn His Arg Gln Met Leu Asn Asp Lys Lys Gln Ala Gln Ile
 6694 2930 2935 2940
 6695 Gln Leu Glu Ile Arg Lys Thr Met Glu Ser Ala Glu Gln Lys Glu Gln
 E--> 6696 2945 2950 2955 296
 6697 Gly Leu Ser Arg Asp Val Thr Thr Val Trp Lys Leu Arg Ile Val Ser
 6698 2965 2970 2975
 6699 Tyr Ser Lys Lys Glu Lys Asp Ser Val Ile Leu Ser Ile Trp Arg Pro
 6700 2980 2985 2990
 6701 Ser Ser Asp Leu Tyr Ser Leu Leu Thr Glu Gly Lys Arg Tyr Arg Ile
 6702 2995 3000 3005
 6703 Tyr His Leu Ala Thr Ser Lys Ser Lys Ser Lys Ser Glu Arg Ala Asn
 6704 3010 3015 3020
 6705 Ile Gln Leu Ala Ala Thr Lys Lys Thr Gln Tyr Gln Gln Leu Pro Val
 E--> 6706 3025 3030 3035 304
 6707 Ser Asp Glu Ile Leu Phe Gln Ile Tyr Gln Pro Arg Glu Pro Leu His
 6708 3045 3050 3055
 6709 Phe Ser Lys Phe Leu Asp Pro Asp Phe Gln Pro Ser Cys Ser Glu Val
 6710 3060 3065 3070
 6711 Asp Leu Ile Gly Phe Val Val Ser Val Val Lys Lys Thr Gly Leu Ala
 6712 3075 3080 3085
 6713 Pro Phe Val Tyr Leu Ser Asp Glu Cys Tyr Asn Leu Leu Ala Ile Lys
 6714 3090 3095 3100
 6715 Phe Trp Ile Asp Leu Asn Glu Asp Ile Ile Lys Pro His Met Leu Ile
 E--> 6716 3105 3110 3115 312
 6717 Ala Ala Ser Asn Leu Gln Trp Arg Pro Glu Ser Lys Ser Gly Leu Leu
 6718 3125 3130 3135
 6719 Thr Leu Phe Ala Gly Asp Phe Ser Val Phe Ser Ala Ser Pro Lys Glu

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	6720		3140		3145		3150
	6721	Gly	His	Phe	Gln	Thr	Phe
	6722		3155		3160		3165
	6723	Ile	Asp	Ile	Leu	Cys	Asn
	6724		3170		3175		3180
	6725	His	Ala	Asn	Asp	Pro	Lys
E-->	6726	3185			3190		3195
	6727	Gly	Pro	Tyr	Thr	Ala	Gln
	6728		3205		3210		3215
	6729	Met	Ser	Ser	Pro	Asn	Cys
	6730		3220		3225		3230
	6731	Cys	Met	Ala	Lys	Arg	Lys
	6732		3235		3240		3245
	6733	Thr	Ser	Lys	Ser	Cys	Lys
	6734		3250		3255		3260
E-->	6735	3265			3270		3275
	6737	Pro	Pro	Val	Ser	Pro	Ile
	6738		3285		3290		3295
	6739	Ala	Phe	Gln	Pro	Pro	Arg
	6740		3300		3305		3310
	6741	Lys	Lys	Lys	Glu	Leu	Asn
	6742		3315		3320		3325
	6743	Asn	Glu	Ile	Ser	Leu	Leu
	6744		3330		3335		3340
	6745	Ala	Leu	Ile	Asn	Thr	Gln
E-->	6746	3345			3350		3355
	6747	Gln	Phe	Ile	Ser	Val	Ser
	6748		3365		3370		3375
	6749	Glu	Asp	Tyr	Leu	Arg	Leu
	6750		3380		3385		3390
	6751	Glu	Gln	Glu	Ser	Ser	Gln
	6752		3395		3400		3405
	6753	Gln	Asp	Thr	Ile	Thr	Lys
	6754		3410		3415		

same

*Please ensure subsequent sequences showing
the above errors are edited.*

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001

TIME: 11:40:56

Input Set : A:\G150581u.txt

Output Set: N:\CRF3\06252001\I084471B.raw

L:5 M:220 C: Keyword misspelled or invalid format, [(1) GENERAL INFORMATION:]
 L:16 M:220 C: Keyword misspelled or invalid format, [(ii) TITLE OF INVENTION:]
 L:36 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
 L:37 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
 L:75 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:94 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:115 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:122 M:111 C: (47) String data converted to upper case,
 M:111 Repeated in SeqNo=3
 L:1151 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:5
 M:332 Repeated in SeqNo=5
 L:1761 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
 L:2484 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:7
 M:332 Repeated in SeqNo=7
 L:2495 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
 L:3808 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:9
 M:332 Repeated in SeqNo=9
 L:5132 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:11
 M:332 Repeated in SeqNo=11
 L:6456 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:13
 M:332 Repeated in SeqNo=13
 L:6798 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:6818 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:6839 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:6860 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:6881 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:6902 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:6922 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:6944 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:6965 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7005 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7025 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7047 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7068 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7088 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7109 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7130 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7151 M:246 W: Invalid value of Alpha Sequence Header Field, [FEATURE:], SeqNo=33
 L:7173 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7194 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7215 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7236 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7257 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7278 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7298 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7320 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7341 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7361 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]

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L:7383 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7404 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7425 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7446 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7467 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7488 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7546 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7567 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7588 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7609 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7648 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7669 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7690 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7710 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7731 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7753 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7774 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]